

JOHN DEERE ENGINE GANG



As it was Pulled at the Winnipeg Motor Contest, July 10-17, 1909, by a Russell 30 Horse Power Steam Engine (Silver Medal Winner)

In the motor contest held at Winnipeg and Brandon Fairs, it must not be forgotten that these contests were for engines and not for plows, but this fact did not detract attention from the performance of the plows themselves; in fact, observers seemed to be as much interested in the plows as in the engines, and the SUPERIOR WORK OF JOHN DEERE ENGINE GANGS under the unfavorable conditions called for a great deal of favorable comment.

DO NOT BE MISLED

One of our competitors would have the public believe that the medals were awarded for plowing and that their plow won all the medals, whereas the medals were awarded for the engines, and several engines pulling John Deere Engine Gangs were awarded gold, silver and bronze medals.

The engine exhibitors neither require our help or defence in respect to their engines as they all possess points of merit. Our only regret was that it was not a plowing contest, as the work performed by the John Deere Engine Gangs in breaking and back setting at Winnipeg and stubble plowing at Brandon was so vastly superior that no other competitor would have had any chance of getting even one medal.

The Winnipeg contest was held in a field consisting of alternate lands of sod and broken prairie or backsetting, ending on one side with land from which strips of turf had been removed, and the plowing was required to be done in such a manner as to pass across the field breaking prairie and then backsetting, and so on alternately.

This proved to be a severe test for the gangs and brought out their relative merits in a striking manner, for in passing from one kind of breaking to another required a change in the depth of the furrow if the plowing was to be done right.

This was quite easily and economically accomplished with JOHN DEERE ENGINE GANGS AS THE PLOWS BEING ATTACHED IN PAIRS, **ONE** MAN WAS ABLE TO HANDLE A 14-BOTTOM JOHN DEERE ENGINE GANG, while it required **SEVERAL** men to handle the single lever plow of fewer bottoms.

This is an important item in actual field work, saving time and labor, and while it is not necessary to change the depth so frequently as in the contest, IT IS NECESSARY TO RAISE THE PLOWS FOR TURNING, AND WITH A JOHN DEERE ENGINE GANG ONE MAN CAN DO THIS WITHOUT STOPPING THE ENGINE; besides this, the ends of the land are much more regular.

The judges' report of the Winnipeg contest has been submitted, and it was demonstrated by the work done at the Winnipeg contest that THE DRAFT OF THE JOHN DEERE ENGINE GANG WAS MUCH LESS THAN OTHER PLOWS, AS CAN BE CLEARLY SHOWN IN THE JUDGES' CHART, SHOWING THE AVERAGE DRAWBAR PULL OF EACH PLOW USED THEREIN.

(Continued on next page)

YOU WANT THE BEST ENGINE GANG—THAT IS A JOHN DEERE.

Write us for beautifully illustrated FREE Booklet

John Deere Plow Co., Ltd.

CALGARY

REGINA

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SASKATOON

JOHN DEERE ENGINE GANG



As it was Pulled at the Brandon Motor Contest, July 19-23, 1909, by a Gaar-Scott 25 Horse Power Steam Engine

A noticeable feature of the contest was that JOHN DEERE ENGINE GANGS DID NOT CLOG EITHER IN BREAKING OR BACKSETTING, and they were set deep enough to get sufficient soil to make a good seed bed.

It was not necessary for the operators of JOHN DEERE ENGINE GANGS in the contest to have a number of men with hooks to clear out the trash to keep bottoms from clogging as was the case with competitors.

There were two very good reasons for this; PLENTY OF CLEARANCE AND ROLLING COLTERS, THE JOHN DEERE ENGINE GANGS HAVING ABOUT 2½ INCHES MORE CLEARANCE THAN OTHER MAKES OF ENGINE GANGS, AND CURVED BEAMS GAVE THROAT ROOM THROUGH WHICH TRASH AND CHUNKS OF EARTH PASSED EASILY; and the plows being assembled to permit the use of rolling colters with the same adjustments as employed on a regular sulky and two-bottom gang plow, it was unnecessary to rebuild the plows in the field; the colters on the John Deere Engine Gang cutting off slices of sod, reducing the draft and also cutting off the partially rotted turf into sections which avoided choking.

The ADVANTAGES OF THE SCREW CLEVIS on John Deere Engine Gangs were fully brought out in the test.

The purpose of this little device is to give the plows a fine adjustment often needed, and it is not necessary to stop the engine to do this; a turn or two with an ordinary wrench while the outfit is working throws the beam point of the plow needing adjustment up or down giving it the best position to get needed results.

Then there is the engine. You can hitch a John Deere Engine Gang to any style of tractor close up and maintain the line of draft.

THE FRAME HAS A BRIDGE LIKE STEEL CONSTRUCTION, very light in proportion to strength, and is devoid of unnecessary and cumbersome castings.

WIDE FACED, EASY RUNNING WHEELS carry the frame so that no power is consumed in dragging dead weight, it being practically all available for plowing.

We were unable to furnish plows to all the exhibitors of tractor motors participating in the contest, but ONE STEAM ENGINE PULLED A 14-BOTTOM JOHN DEERE ENGINE GANG ONE MILE IN 15 MINUTES FLAT AT BRANDON, IN STUBBLE PLOWING, AND ONE MAN ONLY WAS REQUIRED TO OPERATE THE LEVERS AND MAKE THE NECESSARY ADJUSTMENTS, A FEAT THAT WAS NOT APPROACHED BY ANY COMPETITOR, AND THIS FACT WILL BE BORNE OUT BY WITNESSES OF THE PERFORMANCE.

YOU WANT THE BEST ENGINE GANG—THAT IS A JOHN DEERE.

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CALGARY

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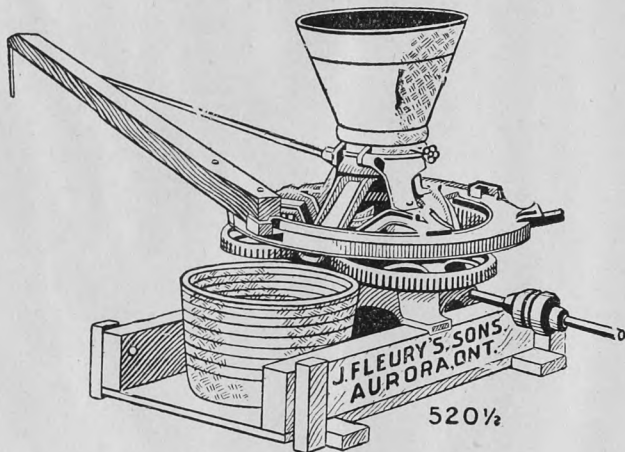
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The Famous "RAPID-EASY" and GOOD LUCK GRINDERS

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In sizes and styles (patterns) adapted to all powers—Tread or Sweep Power, Windmill, Gas or Steam Engine.

More work, of best quality, with same power than by any other grinders.

GOOD LUCK POWER AND GRINDER

SPECIALLY ADAPTED TO FARMER'S WORK

Construction and Finish perfect.

Thousands in use and giving highest satisfaction.

The best is cheapest; an inferior machine is dear at any price.

YOU want only the best.

We also have a full line of Straw Cutters, Horse Powers, Wood Saws, etc.

SOLE AGENTS FOR CANADIAN WEST

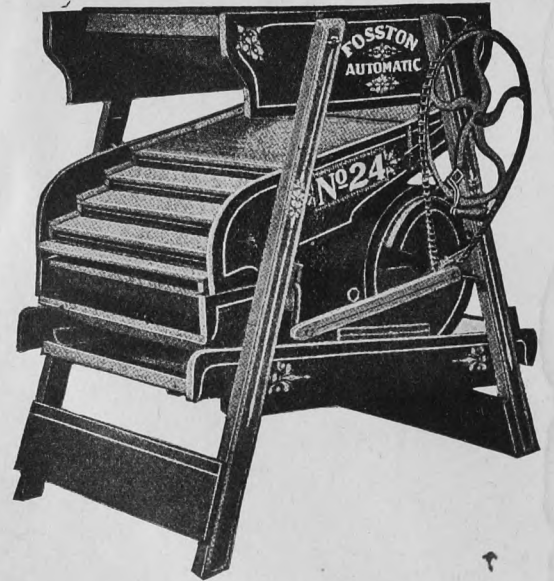
JOHN DEERE PLOW COMPANY, LIMITED
WINNIPEG REGINA CALGARY EDMONTON

THE FOSSTON

WILL enable you to rid your field of wild oats

Will take oats out of wheat or flax better than any other mill made.

Absolutely the best cleaner of all kinds of grain ever invented.



Here are Fosston Facts

The only Patented Feed Device—which allows grain in Machine only when running—Feeds full width of sieves.

A Patented Gang for separating wild or tame oats from wheat. Composed of a series of nine perforated zinc screens.

A Bottom Screen thirty six inches long. Under this screen is arranged a patented cleaning rack to keep bottom rack clean. Special attachment for separating wild or tame oats from barley. Screens for cleaning all kinds of grain. Bagger can be attached in five minutes.

SOLE AGENTS FOR CANADIAN WEST

NEED A HAY PRESS?

Look at the Advantages possessed by this
===== Dain Pull Power Press =====

No pitman for the team to step over or be crippled by.

Compound leverage power makes light draught.

Large feed opening and big hopper making it easy to feed and big capacity.

Automatic Rocker tucker folds every overfeed, makes nice, smooth square ended bales, the kind that pack close in cars and bring highest price on the market.

Bales can be tied from one side of the press, no getting down on knees or climbing over or running around machine to wire the bales.

Bales delivered in front out of dirt and chaff instead of in opposite direction like the pitman push power press does.

Can be coupled close together (telescoped) for moving.

Being built on the Pull Power Plan it can be set at the middle of a stack. One less man is re-

quired on the stack to pitch the hay to this Press than to the push power Press, which must be set at the corner of the stack.

No heavy pitman to rebound or jerk the tongue—this press will not give your horses sore necks.

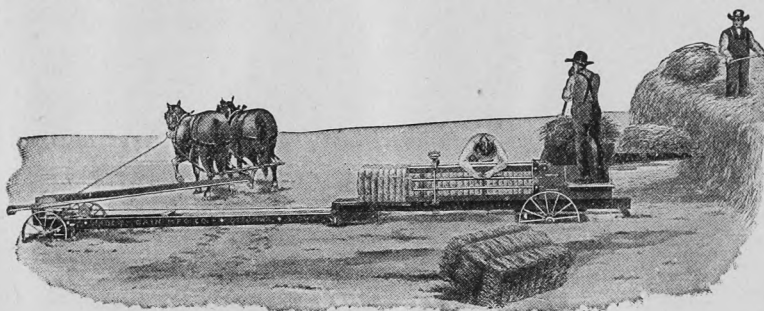
It is all steel and iron, simple and durable.

Full circle, two strokes to each round of the team.

The smoothest running, lightest draft, fastest bailing Hay Press made. No toggle joints or other complicated contrivances to quickly wear out, break or waste power.

When you buy a Hay Press you want a durable, dependable Press that has labor saving money making features.

When you buy a DAIN Pull Power Press you get all these features, you get the latest, up-to-date best Press made.



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Canadian Factory:

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JOHN DEERE PLOW CO., Ltd.

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This Tag

on a ball of binder twine guarantees length, strength, smoothness, freedom from knots, and from all the troubles and delays which poor twine causes. This is the tag we put on every ball of genuine

Plymouth Binder Twine

Look for it. Insist on it. Plymouth Twine is made of the most carefully selected material, in the oldest yet most modern cordage mill in the United States. Eighty-five years of experience and square dealing stand back of every ball that bears the wheat-sheaf trade mark. Plymouth Twine is cheaper in the long run because it is better—works better and goes farther. Get PLYMOUTH at the local dealer's.

PLYMOUTH CORDAGE COMPANY,
Largest rope makers in the world—Oldest in America.
Plymouth, Mass.

TRY US ONCE For Your Repairs

And we know who will look after them in the future.

It must be right when it leaves us; and must go out when promised.

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Drewry's Refined Ale

REGISTERED

¶ A Tonic

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¶ Pure and Wholesome

ASK FOR IT

E. L. DREWRY
REDWOOD FACTORIES
WINNIPEG.

ABOUT OURSELVES

IN these columns from month to month we shall attempt to give to our Readers a brief digest of what we consider the strong features of the issue in question, notices of New Departments, etc., etc. In short it will be a handy place to turn when you wish to know what you may expect from future numbers of "THE CANADIAN THRESHERMAN AND FARMER."

THOSE of our readers who received the August issue—our big special fair number—must have certainly been impressed with the excellence of that issue. It was really our first number after the increase in price from 50 cents to \$1.00, and we believe that our readers are by this time convinced that we are sincere in our desire to give full value for every cent that they spend with us. Since this issue came out we have had requests for it from everywhere. We have sent copies to Europe, to Africa, to South America; in all thousands of extra copies have been requested by different parties and in all but a few cases, these copies have been purchased outright, cash accompanying the order. We simply state this to show our readers how the outside world has appreciated it. For what it contains we cannot help but feel that it is the best value for the money of any FARM MAGAZINE IN THE WORLD. It is true that there are some phases of farming that we do not cover such as Stock and Dairy, although we conduct a small department under this heading, but when it comes to Farm Machinery and its relation to the soil and good crops we do not take "off our hat" to anyone. We are the original "dyed in wool" proposition, and we invite comparison with anything in the world. It is this question of farming with Farm Implements that we propose to discuss, or to be more explicit, we propose to bring the Farmer, his Implements and the Soil closer together.

We are planning a big magazine, but unless our readers co-operate with us we cannot carry these plans out. Your dollar a year may seem like a small item, but when all of the dollars are put together it makes quite a proposition. Every new subscriber that we add to our list means nothing more nor less than a bigger and a better Canadian Thresherman and Farmer. Every time an old subscriber sends us a new name it just means that the one who secured it is getting paid for his work fully in a better paper. If every one of our readers would send in just one new subscriber it would mean that our subscription list would be doubled, and this would mean that our readers would be getting twice the value in a magazine from what they are now getting. Just stop and think what this would mean.

You certainly have a neighbor who does not take "The Canadian Thresherman and Farmer" and who would be glad to do so if you but showed him your copy and asked him to subscribe. Won't you do your part in this matter. This will aid us greatly, and at the same time you will be doing your neighbor, your country and yourself a valuable service.

* * * * *

This month we have made a change in our Boys' and Girls' Department. We have inaugurated a plan whereby we prepare a service to the Youth of the West.

We thoroughly believe that the best way to keep the Boys and Girls on the Farm is to make them love and respect it, and the only way to do this, we believe, is to make every Boy or Girl in Western Canada thoroughly acquainted with Farm Life. We are building a country here and we can have a good time in the building providing we know just what we are doing.

We want the fathers and mothers to encourage the Boys and Girls in this work and be lenient and sympathetic with them if they ask a few questions on the side. While it will be elementary to a certain extent the lessons will, nevertheless, contain much that is new to the average farmer and his wife. The whys and wherefores of many things that occur daily on the farm will be fully explained and the lessons will be full of simple and practical experiments that can be performed in any farm home during the long winter evenings. Watch this department carefully for we are confident that you will be interested in it even if it is intended primarily for the young folks.

* * * * *

Where is that farm experience about which you were going to write us? We know that you've had it in mind for some time, but have just neglected to write us. We want your experience and will gladly pay you for your trouble in writing us. We are perfectly willing to pay you in books from our farmers' library. Perhaps it would help you if we were to suggest some seasonable subjects: (1). Why I Summer-Fallow. (2). How I Deal with the Hired Man Problem. (3). How I Handle My Threshing Crew. (4). How I Keep Ahead of My Neighbors in my Work. (5). Is there such a thing as a Clean Farm.

* * * * *

The threshing season will soon be here and with it much busy work. It has just occurred to us that many of our thresher readers would like to take their paper along with them in their caboose, but they know that it will be severely handled, and as they do not care to loose it, they do not take it along. We have thought this matter over carefully, and as a solution of the difficulty we have decided that any thresherman who wants to take his copy of the "Canadian Thresherman and Farmer" along with him and who loses it or who wants a fresh clean copy can have same by dropping us a postal.

The Most Important Column in this Magazine

Read this carefully, if you
do not read anything else.

To

The Threshers of Canada

A Few Don'ts

DON'T forget in your hurry and hustle as a thresherman that we are head-quarters for everything that a thresherman needs.

Don't tinker with or try to patch up your old feeder in an attempt to make it last another season. You will lose more time and money than will buy a new one. Remember we sell the **Ruth**, the **Hawkeye**, the **Parsons** and the **White Wings**, all of which are well and most favorably known to every thresherman in Canada. Don't bother with make shift feeders, but get one of the above and make some money with your outfit. Repairs for the above feeders always in stock waiting to be shipped on first train out after order is received.

Don't bother with old and worn out belts that occasion all sorts of delays. Get a **Lion Brand** endless rubber belt and your engine and separator will run as one machine. We carry a complete line in stock and can fill orders promptly. We also carry a superior brand of leather belting.

Don't use anything but a **Madison-Kipp** oil pump on your engine. We have them.

Don't waste time by not having on hand such things as **Glare Acetylene Headlights**, **Boss Cylinder Wrenches**, **Hanten Flue Cutter**, **The Handy Cylinder Tooth Straightener**. A good tank pump with plenty of hose. A **Success Strainer**. A **Success Belt Guide**, in fact, anything in the supply line that you need and should have.

Our entire time and attention will be devoted to the **threshermen** of Western Canada during the next month or two, so don't fail to call upon us for your needs.

Parsons Hawkeye Mfg. Co.
WINNIPEG

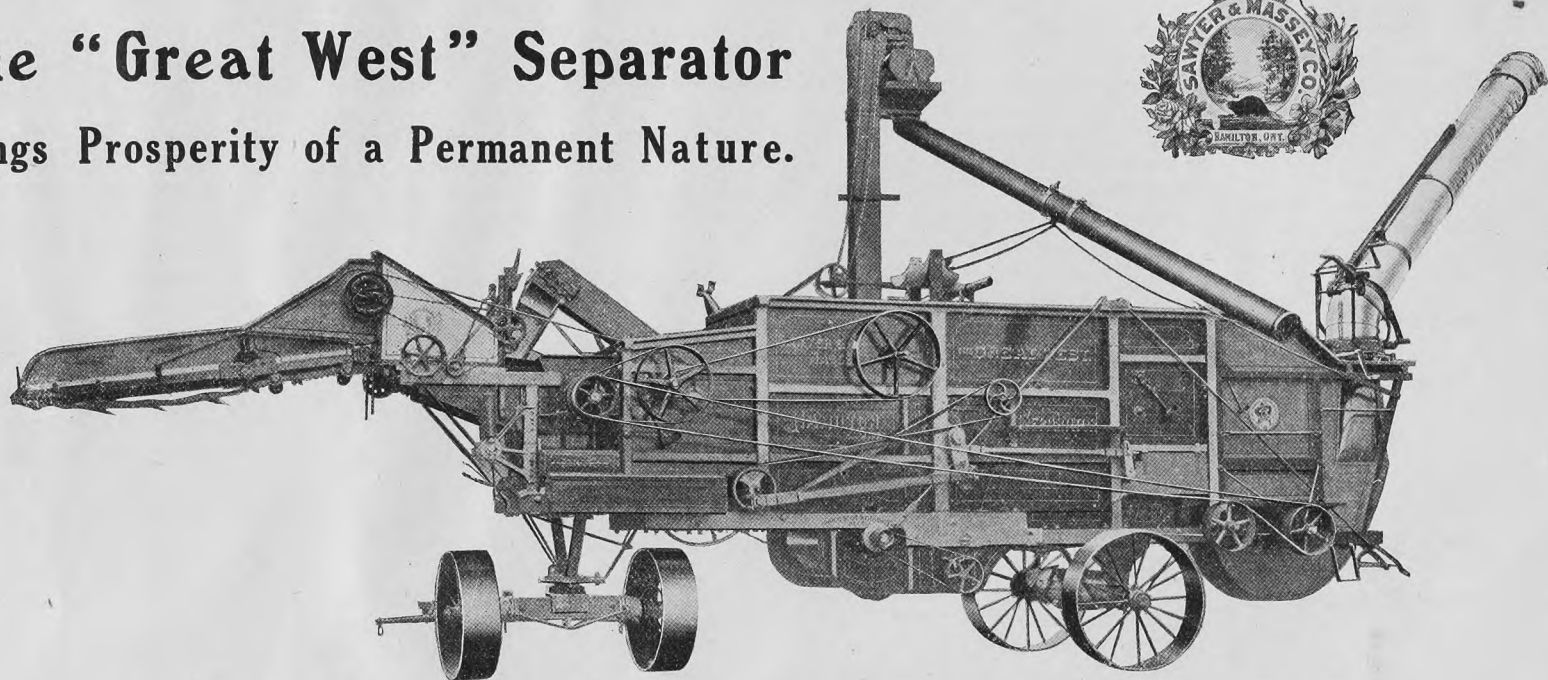


S. & M. Outfit of Parks & Wannamaker, Claresholm, Alta.



S. & M. Outfit of Geo. Gillespie and Geo. Patterson, Griswold, Man.

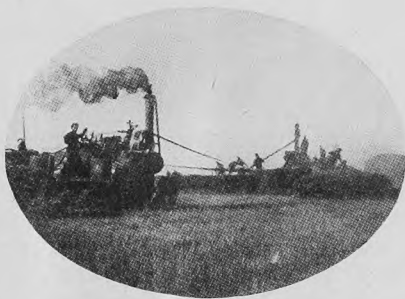
The "Great West" Separator Brings Prosperity of a Permanent Nature.



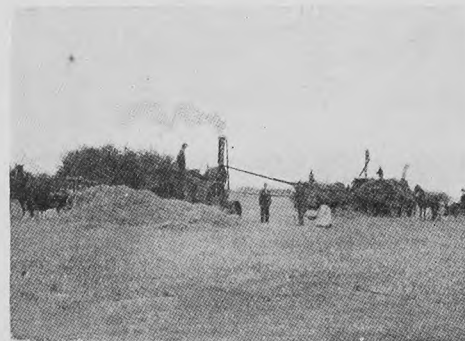
S. & M. 1909 MODEL OF THE "GREAT WEST" SEPARATOR WITH ALL LATEST IMPROVEMENTS.



S. & M. Outfit of Herman Fritzke, Theodore, Sask.



S. & M. Outfit of Edward Mylrea, Ruddell, Sask.



S. & M. Outfit of McNabb & Dickie, Minnedosa, Man.

Testimony of some more S. & M. Customers who have used the "Great West" and made good.

Sawyer & Massey Co.,
Winnipeg, Manitoba.

Carmen, Dec. 15th, 1909.

Gentlemen,—I received a threshing outfit consisting of Great West Separator, Engine 26 H.P., from your Agent, Mr. Alex. McDonald at Carmen, which has given good satisfaction in every way. I have run threshing mills for the last five years and I find that the Great West can handle more grain and do it better than any other I ever ran, and I would advise anyone that is buying a Mill to get the "Great West."

Yours truly, (Sgd.) ARCHIE McLELLAN.

Sawyer & Massey Co.,
Winnipeg, Manitoba.

Glenewen, Dec. 8, 1908.

Gentlemen,—I have much pleasure in saying that the "Great West" Separator which I purchased from your Agents, Messrs. Mitchell & McIlmoyl of Glenewen, has given me first-class satisfaction, and every customer I threshed for this season cannot say enough for the "Great West," as they were all well satisfied with the work done.

Yours truly, (Sgd.) W. T. BEATTY.

Sawyer & Massey Co.,
Winnipeg, Manitoba.

Griswold, Nov. 15, 1908.

Dear Sirs,—I am pleased to advise you that the 36x60 "Great West" Separator which I purchased from you this season has given me excellent satisfaction. The Sawyer & Massey Blower, Ruth Feeder and Perfection Elevator also work well. I made an average of about 1600 bus. per day and did first-class work. Wishing you every success.

I am, yours truly, (Sgd.) C. E. McKENZIE.

Sawyer & Massey Co.,
Winnipeg, Manitoba.

Neudorf, Oct. 9, 1908.

Gentlemen,—This is to certify that the 26 H.P. Compound Engine bought of your Company in 1907 is running to my entire satisfaction, and the 36x60 "Great West" Separator, S. & M. Stacker, Hawkeye Feeder and Perfection Weigher, is doing as good work as any machine can do. I would not ask for anything better. The Engine can be steamed by a small boy, and we never want for steam.

Wishing Sawyer & Massey every success, I am,
Yours truly, (Sgd.) JOS. SCHMITT.

SEND FOR CATALOGUE, PRICES AND FULL PARTICULARS

ALWAYS ADDRESS
Sawyer & Massey Co. Limited
WINNIPEG



ADDED to the many attractions by the Wheat City Fair and supplementary to its large and attractive farm machinery exhibit was the motor contest, and while it followed very closely upon the heels of the one that was held at Winnipeg it nevertheless attracted a great deal of attention from fair visitors.

Secretary Charles Fraser appreciates a good drawing card for an exhibition when he sees it and it is to his push and energy that the success of the Brandon Contest is largely due.

Motor Contests are no longer new things in Western Canada. In fact they have become so well known that the farmer fair visitor at Winnipeg and Brandon has come to look for these as among the most interesting and practical attractions.



PROF. P. S. ROSE,
Professor of Farm Mechanics
North Dakota Agricultural
College, Fargo, N.D.
Engineer in Charge.

The Contest at Brandon during the time it was being pulled off was placed in the hands of Prof. P. S. Rose, Professor of Farm Mechanics at the North Dakota Agricultural College, and he in turn was assisted by Prof. C. A. Ocock, Professor of Farm mechanics at the University of Wisconsin and W. J. Brandon, Assistant Professor of Farm Mechanics at the Manitoba Agricultural College.

Seventeen entries were made for this contest and when the drawings were made for position they were found to be as follows:—

- No. 1. Avery Co., 12 H.P. Gasoline
- No. 2. International Harvester Co. 20 H.P. Gasoline.
- No. 3. International Harvester Co. 20 H.P. Gasoline.
- No. 4. International Harvester Co., 20 H.P. Gasoline.
- No. 5. Avery Co., 20 H.P. Steam.
- No. 6. International Harvester Co., 25 H.P. Gasoline.

THE BRANDON MOTOR CONTEST

By E. W. H.

- No. 7. J. I. Case Co., 32 H.P. Steam.
- No. 8. International Harvester Co. 35 H.P. Gasoline.
- No. 9. Gaar-Scott Co., 25 H.P. Steam.
- No. 10. J. I. Case Co., 20 H.P. Steam.
- No. 11. M. Rumely Co., 30 H.P. Steam.
- No. 12. Avery Co., 30 H.P. Steam.
- No. 13. M. Rumely Co., 25 H.P. Steam.
- No. 14. Birrell Motor Plow Co., 25 H.P. Gasoline.
- No. 15. Marshall, Sons & Co., 25 H.P. Gasoline.
- No. 16. Sylvester Mfg. Co., 25 H.P. Gasoline.
- No. 17. M. Rumely Co., 36 H.P. Steam.

Out of the above seventeen, fourteen engines faced the judges. Nos 8, 14 and 16 not competing. The Contest was to have started Monday, July 19th, the opening day of the Fair, but owing to the large amount of arrangement necessary for such things and the fact that the brake must come from Winnipeg a start was not made until Tuesday, July 20th. The shortness of the time (four days) made it necessary that all possible advantage be taken of time so it was decided to apportion the work among the three judges in such a manner that the tests could be carried out with all possible expedition. Accordingly, Prof. Ocock took charge of the plowing field which was about a mile and a quarter from the exhibition grounds and Prof's. Rose and Brandon looked after the brake tests.

It was originally intended that

the test should be divided up into four parts, viz. a brake test to determine the maximum belt efficiency of each engine, a hauling test to determine the tractive efficiency of each engine; a plowing test in order to determine the field efficiency of each engine and an inspection test in order that the judges might have some idea of the design and construction of the several machines entered.

The brake test was arranged on the south side of the grounds on what was formerly the old race track and the shade and foliage that characterizes the Brandon Fair grounds throughout made it very convenient for the judges and for the various contestants who watched their engines at work. The test was made upon the same brake as was used at Winnipeg, and if our readers will refer to our August issue they will see just how it worked and how the horse power was figured from the data secured.

To the onlooker a brake - test may appear to be a waste of time, but from the standpoint of the judges and the contestants it is a very important factor in determining the data that goes to make up the final results. The Brake is an apparatus that by means of friction makes a load the size of which can be determined and which can moreover, be converted into horse power. The load is relatively constant, consequently it makes a very good basis upon which to calculate the fuel and water economy of the various engines that go through the test. Were the various engines to be put upon

threshing machines it would be impossible to run them so as to maintain a steady load. Where the load varies accurate data cannot be obtained of work done or of the fuel and water consumed in doing it, consequently the Prony brake or some modification of it is generally used in determining the belt efficiency of an engine.

It is hardly fair, however, for anyone to take the manufacturer's brake ratings of their engines and compare them with the ratings developed by these same engines in the contest. The brake test, as carried out at a motor contest, is really an economy test rather than a maximum brake horse power test. The e is always some horse power where any engine will develop the most power in proportion to water and fuel consumption, and this horse power is in general not the maximum horse power of the engine. A horse working under an excessive load may carry it but at the expense of fuel consumption in the shape of more food. Just so with an engine, and herein lies a valuable lesson for any farmer who owns and operates a traction engine. When you purchase an engine of a rated brake horse power it is not wise to conclude that that particular engine will do work equivalent to that horse power every day in the year. It probably will do it but at a loss of fuel and water out of all proportion



W. J. BRANDON.
Assist. Prof. Farm Mechanics
Manitoba Agricultural College.
One of the Judges.

to the extra work done. The point in traction engineering is to find the nearest economical maximum horse power of the engine and so regulate the load as to keep it as near this power as possible. This is a thing which

Official Table showing Judges' Record of Plowing and other Data, and total Points Won by each Engine at Brandon Motor Contest

		BRAKE TEST (20 points)							PLOWING TEST (40 points)														PRICE (10 points)		TUR- NING (5 pts.)	
No.	Make of Engine	Rated Brake h. p.	Actual Brake h. p.	Class	Total weight Fuel used	Total weight water used	Pounds water Per lb. coal	Pounds fuel Per h. p. hour	No. of Plows hauled	Width of bottoms	No. of rounds plowed	Time per round (min)	Total time(min)	Time out for engine(min)	Total fuel used (lbs.)	Total water used (lbs.)	Depth plowed	Acres plowed	Pounds of fuel per acre	Water used per acre (steam)	Score for water used - 4 points	Pounds of water per lb. of fuel	Price f. o. b. Brandon	Price per horse power	Dia. of circle in turning	Total score
1	Avery 12 h.p. Gasoline	36	16	A	35	0		1.094	3	14"	2	23 23½	46½	2	10	6	4"	.848	11.79				2500	156.25	42'-6"	111.5
2	I. H. Co. 15 h. p. Gasoline	19	21	B	17.5	54		.416	3	16"	3	20 19 18	57	1	20	27	4"	1.45	13.79				1700	80.95	18'-4"	106.34
3	I. H. Co. 20 h. p. Gasoline	28	25.9	B	26	93		.50	6	14"	2	26½ 25½	52	0	12	44	4"	1.7	6.46				2200	84.60	18'	121.4
4	I. H. Co. 20 h. p. Gasoline	28	26	B	34	96		.654	6	14"	2	23 21	44	0	10½	27	4"	1.7	6.176				2100	80.77	17'-8"	113.03
5	Avery 20 h. p. Steam	60	69.9	E	630	4312	6.84	4.84	8	14"	1	16½	16½	0	119	500	4"	1.131	105.2	442		4.2	not givn	—	26'	135.54
6	I. H. Co. 20 h. p. Gasoline	28	20.7	A	22	96		.53	4	14"	2	30 30	60	4½	21	27	4"	1.131	18.57		2.8		2100	100	15'-9"	100.13
7	Case 32 h. p. Steam	110	93	D	748	5912	7.9	4.02	12	14"	1	18	18	0	135	834.4	4"	1.454	92.8	505		6.17	4106	44.50	35'	137.68
9	G-Scott 25 h. p. Steam	76	76	D	754	5312	7.045	4.96	14	14"	1	20½	20½	0	154	621.8	4"	1.98	77.7	313.6		4.03	3755	49.40	21'	134.7
10	Case 20 h. p. Steam	60	62.9	E	550	3967	7.21	4.37	8	14"	1	16¼	16¼	0	131	756.4	4"	1.131	115.8	668		5.78	not givn	—	22'	137.28
11	Rumely 30 h. p Steam	90	90	D	715	5598	7.83	3.97	14	14"	1	20½	20½	0	278	2420	4"	1.98	140.4	1328		8.7	3663	40	38'	126.02
12	Avery 30 h. p. Steam	80	94	D	930	5093	5.47	4.94	12	14"	1	29	29	0	182	600	4"	1.454	125.1	343		3.3	3750	40	29'	138.38
13	Rumely 25 h.p. Steam	75	78.4	D	654	4992	7.63	4.17	14	14"	1	15	15	0	192½	1460	4"	1.98	97.2	742.4		7.58	3188	40.30	36'-9"	136.95
15	Marshall 25 h.p. Gasoline	60	58	C	100.25	468		.86	12	14"	1	27½	27½	1	23	162	4"	1.7	13.53				3500	60.34	42'	111.2
17	Rumley 36 h.p. Steam	120	99.5	D	1032	8000	7.75	5.185	14	14"	1	20¼	20¼	0	197	1720	4"	1.98	99.5	873		8.73	4400	44.22	27'	134.25

Protection, Clearance, Speed, Accessibility, Manipulation, Design and Construction were assigned 80 points for Gasoline and 90 points for Steam Engines. Possible points in gas engines 155 : in steam 165.

a motor contest helps to determine, and every farmer should study the table of results carefully for information on this point. All of the engines in the contest may not have been run with this end in view, but generally speaking every manufacturer who entered the contest did so with the idea of having his engine make as economical showing as possible. The usual practice among American and Canadian manufacturers is to give the nominal

rating as in other words the horse power developed at the draw bar. In practice this rating is generally one third of the brake horse power for steam and one half the brake horse power for gasoline. Some manufacturers however, rate their gasoline engines nominally at $\frac{2}{5}$ of the brake ratio. Some insist that brake rating is the only rating that counts, but the farm engine of to-day is being so generally used for hauling, plowing, etc.,

that it is well that the farmer should know just what its traction efficiency really is as apart from its belt horse power. In the table, if one takes the actual brake horse power and compares it with the fuel and water consumption of the different engines some very interesting and practical comparisons will result.

It was originally intended in the Brandon Motor Contest to hold a hauling test, the same to be over

the old race track course, but when a start was made and the engines cut through the top crust it was found that there was such a bed of sand beneath as to make hauling an impossibility. Accordingly, on the first day of the contest, July 20th, all of the gasoline engines were sent to the plowing field where engineer Cock was in charge and where plots had been laid out proportionate to the horse powers of the different engines. The smaller gasoline engines plowed two or more rounds while the larger gas engines and steam engines plowed one round. Careful measurements were taken of the fuel and water tanks and each engine was measured in and measured out in order to determine water consumption and fuel per amount of ground plowed. No dynamometers was used in this test as at Winnipeg so that no draw bar figures are available.

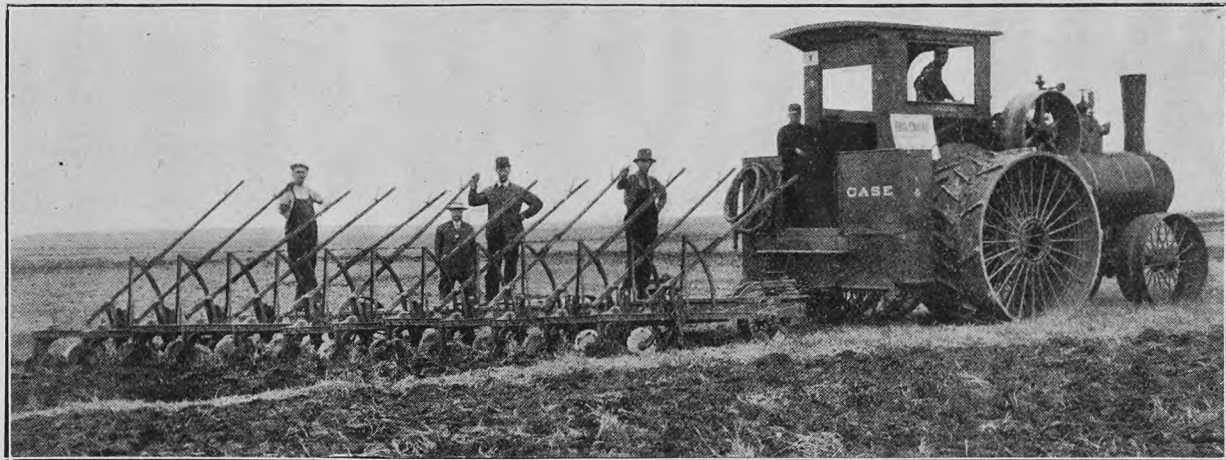
The plowing field itself was a piece of summer fallow more or less loam and in places running into a considerable grade. These grades were a considerable factor in determining the load hauled, and at times presented considerable difficulty, at any rate increasing the water and fuel consumption over



The Avery 30 H.P. Double Cylinder Undermounted Steam Engine (Winner Gold Medal Class D, Winner Sweepstakes Medal in Steam Class), just as it finished its plowing test. It pulled a 12-bottom 14-inch Cockshutt Engine Gang.

what it would have been on a perfectly level track. Grades are hardly a fair proposition in a motor contest where such close record is kept of fuel and water consumption per unit of ground plowed for in the case of the steam engines, especially, the engine working under an excessive load in making the grade is very likely to throw water over and at the same time burn an extra amount of fuel.

The plowing field had just been recently mowed of a large crop of weeds and second growth and as it was stubble plowing, quite a little contest developed among the different plow manufacturers in the way of doing the best work. Rivalry was keen, so keen in fact that every plow was manned by experts who saw to it that their plows did the best possible work under the circumstances. This plow contest while not in the official list is a side issue that has developed out of the motor contest, proper and may in time prove to be quite a feature. At any rate it has its advantages, viewed from the standpoint of the farmer, and we believe



J. I. Case 32 H.P. Steam Traction Engine (Winner Silver Medal, Class D), pulling a 12-bottom 14-inch Cockshutt Engine Gang.

Gas Tractor made 1 round, pulling a 12-bottom 14 inch Cockshutt Engine gang, plowing 1.7 acres in 27½ minutes.

All of the above engines finished their work in the first day and were then taken back to the grounds to finish their brake and inspection tests. The next day the following engines were taken to the plowing field making records as follows:

No. 7 J. I. Case, 32 H. P. Steam Engine, made one round pulling

No. 12 Avery 30 H. P. Steam Engine made 1 round, pulling a 12-bottom 14 inch Cockshutt engine gang, plowing 1.454 acres in 29 minutes.

No. 13 Rumely, 25 H. P. Steam Engine made 1 round pulling a 14-bottom 14 inch John Deere engine gang, plowing .98 acres in 15 minutes. This engine made record time for the round.

No. 17 Rumely 36 H. P. Steam Engine made 1 round pulling a

8 bottom Cockshutt engine gang, plowing 1.131 acres in 16¼ minutes.

No. 10 J. I. Case 20 H. P. Steam Engine made 1 round pulling an 8 bottom 14 inch Cockshutt engine gang, plowing 1.131 acres in 16¼ minutes.

Each engine was required to turn a circle with plows attached in order to give the judges some definite data upon which to base their calculations regarding turning capabilities. Considerable stress was laid upon the plowing test at the Brandon Contest 40 points being assigned to it instead of 20 as at Winnipeg. The plowing score sheet was divided into two divisions, one for plowing as it pertained to the work of the engine and the other for quality of work done.

By noon of Friday, July 23 the tests had all been finished and although the judges had spent some time during the contest in figuring data there was not much work to be done so that it was not until late Saturday afternoon July 24 that the decisions were arrived at based on the following score card:

Brake Test, 20 points.
Plowing Test, 40 points.
Price, 10 points.
Turning, 5 points.

Protection of Working parts }
Clearance } 80 points for
Speeds } gas engines
Accessibility } and 90 points
Manipulation } for steam
Design and Construction } engines.

The maximum number of points



M. Rumely Co.'s 25 H.P. Double Cylinder Steam Traction Engine (Winner Bronze Medal, Class D), pulling a 14-bottom 14-inch John Deere Engine Gang in the Brandon Motor Contest.

is a thing that would be appreciated by him. But be that as it may, the plowing as a whole at the Brandon Motor Contest was a most excellent piece of work and the farmer from whom the land was secured may well feel proud of the work done.

No. 1 The Avery 12 H. P. Farm Tractor made two rounds pulling a 3-bottom 14 in P.&O. Canton gang, plowing .848 acres in 46½ minutes.

No. 2 International Harvester Co., 15 H.P. Gas Tractor made 3 rounds pulling a 3-bottom 16 inch engine gang, plowing 1.43 acres in 57 minutes.

No. 3, International Harvester Co. 20 H.P. Gas Tractor made 2 rounds pulling a 6-bottom 14 inch Cockshutt engine gang, plowing 1.7 acres in 52 minutes.

No. 4 International Harvester Co. 20 H. P. Gas Tractor made 2 rounds pulling a 6-bottom 14 inch Cockshutt engine gang, plowing 1.7 acres in 44 minutes.

No. 6 International Harvester Co. 20 H.P. Gas Tractor made 2 rounds pulling a 4-bottom 14 inch Cockshutt engine gang, plowing 1.131 acres in 60 minutes.

No. 15 Marshall, Sons and Co's (Gainsborough, England) 25 H. P.

a 12-bottom 14 inch Cockshutt engine gang, plowing 1.454 acres in 18 minutes.

No. 9 Gaar-Scott & Co's 25 H. P. Steam Engine made 1 round pulling a 14-bottom 14 inch John Deere engine gang and plowing 1.98 acres in 20½ minutes.

No. 11 Rumely 30 H.P. Steam Engine made 1 round pulling a 14-bottom 14 inch John Deere engine gang, plowing 1.98 acres in 20½ minutes.

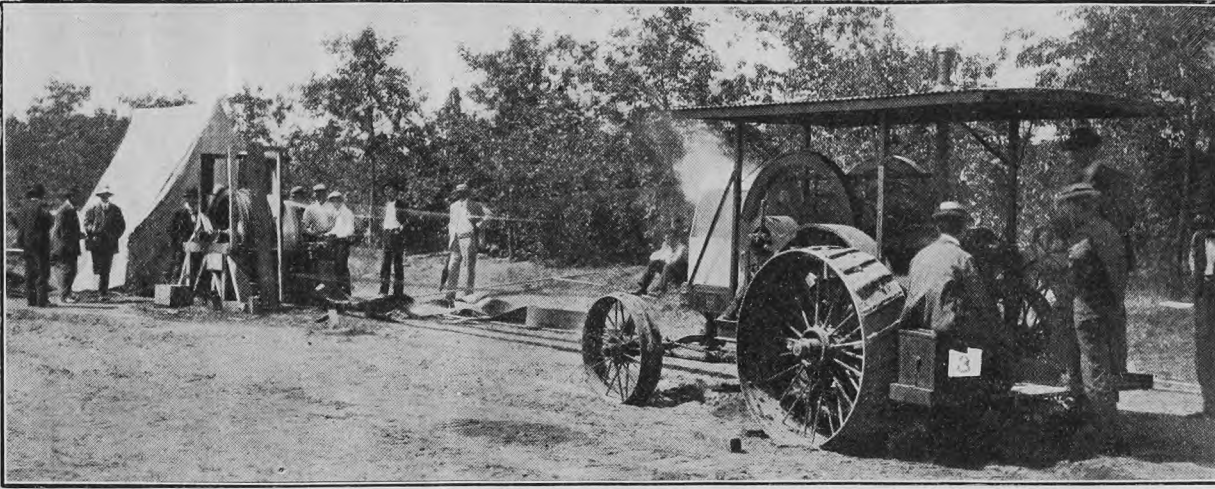
14-bottom 14 inch John Deere Engine gang, plowing 1.98 acres in 20¼ minutes.

Only two engines remained to be put through the plowing test, but darkness prevented them starting their work until Thursday, July 22nd. On Thursday morning bright and early they repaired to the plowing ground going through their plowing stunt with results as follows:

No. 5 Avery 20 H. P. Steam Engine made 1 round pulling an



The Avery 12 H.P. Farm Tractor (Gasoline) Winner Gold Medal, Class A, doing its brake stunt in the Brandon Motor Contest.



I.H.C. 20 H.P. Gas Tractor (Gold Medal Winner, Class B), in the brake test at Brandon. (Winner of Sweepstakes Medal Gas Engine Classes).

being 155 for gas engines and 165 for steam engines.

When all of the data was in and the figures gone over carefully it was found that the following engines with the following scores were the winners.

Class A.

Gasoline Engines up to 20 H.P.

Gold Medal Winner—Avery Co. 12 H. P. Farm Tractor. 111.5 points out of a maximum of 155.

Silver Medal Winner—International Harvester Co. 25 H. P. 100 13-100 points out of a maximum of 155.

Class B.

Gasoline Engines 20-30 H. P.

Gold Medal Winner—International Harvester Co. 20 H. P. 121 4-10 points out of a maximum of 155. This engine won sweepstake medal for gasoline engines.

Silver Medal Winner—International Harvester Co. 20 H. P. 113 3-100 points out of a maximum of 155.

Bronze Medal Winner—International Harvester Co. 15 H. P. 106 34-100 points out of a maximum of 155.

Class C.

Gasoline Engines 30 H. P. and above

Gold Medal Winner—Marshall Sons & Co. 25 H. P. 111.2 points out of a maximum of 155.

Class D.

Steam Engines from 75-120 Brake H.P.

Gold Medal Winner—Avery 30 H. P. 138 38-100 points out of a

Co. 25 H. P. 136.95 points out of a maximum of 165.

No. 4.—Gaar-Scott & Co. 25 H. P. 134.7 points out of a maximum of 165.

No. 5—Rumely Co. 36 H. P. 134



Gaar-Scott & Co.'s 25 H.P. Double Cylinder Traction Engine pulling a 14-bottom John Deere Engine Gang in the Brandon Motor Contest.

maximum of 165. This engine also won sweepstake medal for steam engines.

Silver Medal Winner—J. I. Case 32 H. P. 137 68-100 points out of a maximum of 165.

Bronze Medal Winner—Rumely

25-100 points out of a maximum of 165.

No. 6—Rumely Co. 30 H.P. 126 2-100 points out of a maximum of 165.

Class E.

Steam Engines up to 75 H. P.

Gold Medal Winner—J. I. Case,

20 H. P. 137 28-100 points out of a maximum 165.

Silver Medal Winner—Avery Co. 20 H. P. 135 54-100 points out of a maximum of 165.

Does a Motor Contest pay? It is a big question and one that requires care and thought in answering. It is a thing the results of which require very careful consideration by the average farmer. Don't judge altogether from the points won but study the tables carefully and then draw your conclusions before coming to the decision that the best engine won. It may be and it may not be best, in any event the records of a Motor Contest furnish some very interesting data that would not otherwise be available. Furthermore don't draw the conclusion that only the best engines enter such contests.

Many farmers may have wondered where the Hart-Parr was and

where are its records in both the Winnipeg and Brandon Contests but let it be here stated that no Hart-Parr engines were entered in either contest, consequently no records were made by that engine.

Motor Contests may have their aftermaths of little differences as between the contestants themselves as a careful reading of our advertising columns for August and September will show. These things must not be taken too seriously only in so far as the facts bear out the statements made. None of us like to be defeated and we all consider our own horse the best, but every one cannot win a gold medal and some one must be content with second place. Judges are but human and they may make mistakes, but it is hard to believe that they are in any way intentional when so much is at stake. Future contests, which are sure to be held, will in all probability see several changes in the methods of conducting the tests and in the score card all of which will tend to get the proposition down to a more accurate basis. Enough said.



Marshall & Sons 25 H.P. Gas Tractor (Gold Medal Winner Class C), doing a nice stunt on the brake.

An Experience and a Good One.

FIRST PRIZE ESSAY.

AS I belong to that dirty, motley and cosmopolitan bunch of humanity called threshers I thought a few rambling remarks bearing on the work of that very important fraternity might interest some of its members in the same way as I have been much interested in some very vivid and descriptive letters that have appeared from time to time in your much appreciated and widely read periodical that interests and delights each and every member of hundreds of families that are scattered throughout the length and breadth of this fair Dominion of ours.

The threshing season of 1908 in this district was very much broken by wet and unsettled weather, and those farmers who went into a large stook threshingring got badly bitten. There were some wheat stooks standing till within a few days of the end of the season. But, by the way, there was more wheat gotten out of those same stooks and of a higher grade than if they had been stacked as poorly as some that we threshed.

Leaving the wet out of consideration, this was a better season for the the thresher than the last two. Two years ago the grain was in such poor sheaves or bundles, which is more descriptive, that you could not get enough through some days to pay expenses. Then last year with a poor yielding crop and exorbitant wages all that was left for the thresher, after paying his help and perhaps a payment on the outfit (pretty lucky if he could do that), was the fun of being boss and running the show. Most of us threshers know how much there is of that in the job.

In the last eight years we have had experience with different sizes of outfits. First year we had a small horse power, but it was too slow and too much of a horse killer. Next year saw us with a Case 15-H. P. portable and a 32x54 separator with all the labor-saving attachments. This, I might say, makes a splendid little outfit and one that I would recommend but, of course, the portable rig is a little awkward to get around and a little behind the times. After using this outfit for four years we decided

= Threshing in Western Canada =

As Told in a Number of Letters Written to "The Canadian Thresherman and Farmer."

About a year ago our readers will remember that we announced that we would give away ten prizes for the ten best letters on threshermen's experiences. We received a large number of interesting and valuable letters in response to this announcement, and after going over them carefully we have awarded prizes to the following:—

No. 1—F. C. Saunderson, Souris, Man.
No. 2—E. Ward Jones, Box 121, Carman,
No. 3—D. J. McRae, Wauchope, Sask.
No. 4—Robert Hunter, Neepawa, Man.
No. 5—Edwin Harris, Mayton, Alta.

to try steam plowing and so purchased a Case 25-H. P. plowing engine and a 40x62 steel separator. We did not get this outfit to do any

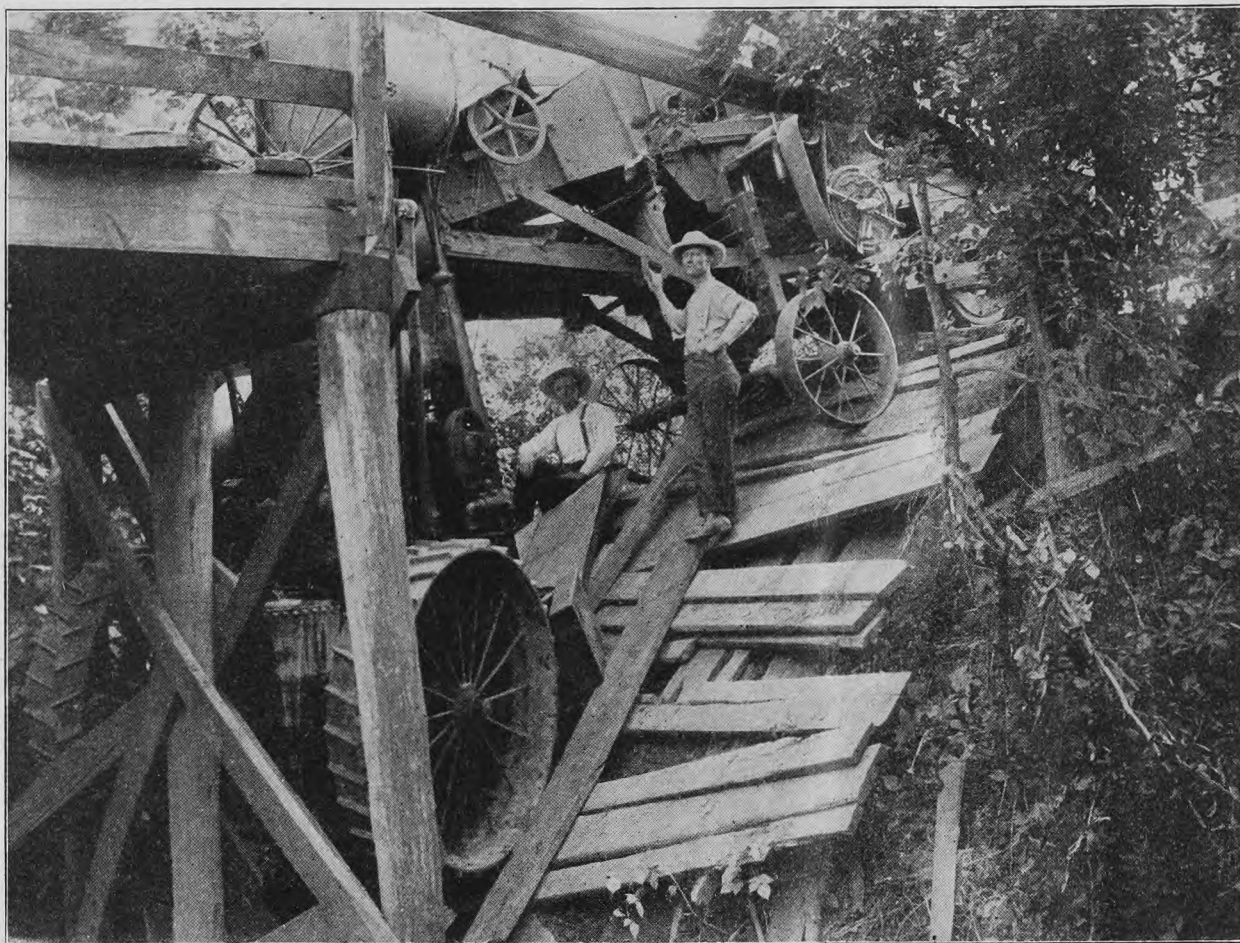
No. 6—W. H. Read, Nanton, Alta.
No. 7—P. O. Ross, Swift Current, Sask.
No. 8—G. E. A. Malchow, Eastville, Alta.
No. 9—John Brown, Innisfail, Alta.
No. 10—Jas. Glennie, McDonald, Man.

Following are some of the letters. The remainder will be published from time to time as space permits.

The letters were all good and we should like to have awarded a prize to every one, but we feel that the years subscription to this magazine which every one who wrote us a letter received is full compensation for the work done.

never leave a grumbler behind but instead the farmer wants us another year.

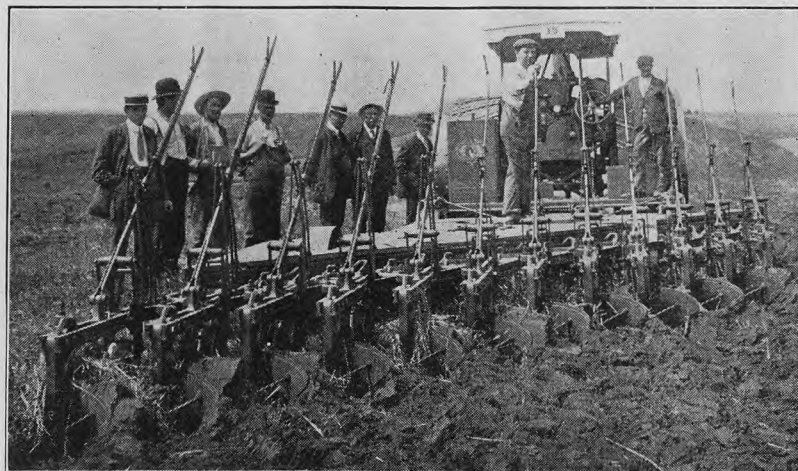
My brother looks after the grain



A disaster of this kind will put a thresherman out of business for all time to come.

wonderful threshing but we always endeavour to go along quite smoothly not trying to break any records in the bushel line but rather in the way of a good, clean satisfactory job and the consequences are, we

end of the outfit and I run the power end, In this way we save these two men's wages and also keep the rig, I think, in a little better repair for, as a rule, hired help is not so careful of machinery as an owner.



Marshall & Sons' 25 H.P. Gas Tractor pulling a 12 bottom 14 in. Cockshutt Engine Gang in the Brandon Motor Contest.

After going over the whole outfit this past season before starting out, putting everything into as good a shape as possible, we pulled out on the morning of the 4th of Sept. to commence our season's work. What old thresherman is not stirred up with enthusiasm when he hears the first toot, toot as a signal to start the "wheels to go round?"

This year our stook gang consisted of eight stook teams, 1 pitcher, a tanker, who also drew straw to the engine, the water being generally handy; a fireman, separator man and your humble servant.

I might say here that I use a tender which holds five barrels of water and enough straw to run two miles, this is mounted on very low trucks and all the waterman has to do to unload is pull up to the back of the tender let down a

rubber hose, then he can whistle and watch the tender fill. With a large traction engine a tender is almost an absolute necessity and the handier you can have it the better.

While setting, the two men whose turn comes first at the machine help, one spreading the large canvas sheet, which we always use, under the feeder; while the other is running out the belt. I pull up to within about 8 feet of the end of the belt, uncouple from tender, pull to the belt, close the throttle and before the fly wheel is stopped the belt is on ready for action. The same speed is used in getting ready to move. The block is out in the ashpan while

they are cleaning up at the other end, then just as soon as the belt is off, the engine is backed for the tender, is reversed and we are now pulling up along the left side of separator before the belt is rolled up. The chain which is dragging behind the tender is hooked to point of tongue without stopping the engine and away we go to the next set.

We had no startling accidents or hairbreadth escapes nor any serious breakdowns this past season, but one very strange thing occurred one evening while we were threshing a set of barley. We just wanted to finish the set and move to the next place for supper. I was up on one of the stacks helping six others to make that separator groan when I noticed the speed decreasing. I jumped down and pulled the beater belt tighter but this did not

better things, sotelling the men to stop feeding, started to look for the trouble, for the machine just seemed to be slowing down just like a Dorando almost fagged out. I ran back to the engine but could not see anything wrong. By this time the outfit was running about third speed and nothing going through. This puzzled me for a moment, but at last thought the governor was where the trouble lay so after taking it off found that the nut that held the valve on the stem had worked off. In a short while this was fixed and soon we were at it again to finish the set.

Having the three foot drivers on the engine made it, of course, impossible to pull between the stacks so I drive up diagonally to the set and stop when the separator is in a position to be drawn in by the straw team there waiting to couple on as soon as the tender is out of their way. This is, I believe, a better way than pulling in with the engine especially when you use a tender, but it requires a team that is right on to their job to do it.

Last fall we threshed 38 days, doing in all 53,000 which makes an average of about 1400 per day.

As to the care of the outfit, while working: Take good care of your machine, give it enough of good oil, keep all wearing parts snug and running smoothly, and all nuts tight. The belts should be taken off at night and put away where they cannot get wet or frosted. This includes the drive belt. It is a good plan to cover the pulleys with bags when the frosts start. The appearance of an engine is a very good criterion to go by to tell what kind of an engineer there is running it. Therefore boys, try to keep your engine respectably clean both outside and inside. Outside, for your own credit and taste and the more attractive appearance of the engine. Inside, for your own convenience and the health and longevity of the boiler. We wash out our boiler every week or two according to the kind of water we are using, but as most of our threshing lies close to the Souris river we are not troubled much with bad water, but by all means use the best procurable. As soon as the last sheaf is through my brother is on top of the separator with a broom, and before we are home there is very little dust or

foul weed seeds left on the top or sides of the steel machinery and before being put away safe in their shed they both have a good cleaning outside and inside.

As to the management of a gang. Treat them as men with a certain amount of reason and don't get too bossy, let each man know his job on the start and see that he does it, and not let the other fellow do two men's work while he is behind the stack lighting his pipe. When each one has the same job every move there is no trouble with men tumbling over one another trying to do something. I do not believe in a boss trying to be a dude and drive his men into places he would not go himself. Don't be afraid to go to the dirty side and help to clean up. Pay your men a decent wage, for good men well

through one or more of these fellows I have been speaking about. Threshing is a business and like any other industry should be carried on on business principles but if we do not pull together we will be beaten on all sides.

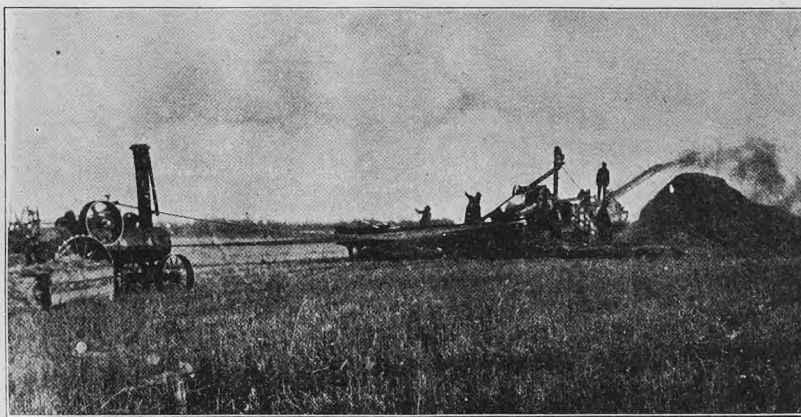
We pulled home on the 4th. of November having been on the war-path, intermittenly for two months and every single man on the gang was not the least bit sorry when he saw the last sheaf disappear down the gaping iron jaws of that hungry monster which is now lying dormant till next season. In the meantime we will take life as it comes, enjoy the results of our labor, read the Canadian Thresherman and all the new catalogues to see what the other fellow is doing.

I have now spoken to a much greater length than I intended

be of some interest to relate in a poor way my findings on the subject.

Before there were many towns or railroads in Western Canada, and especially west of Winnipeg, for this was thirty years ago, my father purchased a threshing outfit. It was not one of our now elaborate complicated machines, but a Sawyer-Massey upright boiler portable, and a Peerless separator to match. Then was not the day of steam in general, and considerable difficulty was experienced in operating this, "then a wonder of an outfit." However, it answered the purpose for a few years but was replaced twenty-three years ago by a 12-horse power and a thirty-two J. I. Case separator. The separator was still very simple to the latest improved, being hand fed, straw carriers, and the grain being delivered immediately on to the ground from the auger. But the old timers never forget to talk, when gathered around the winter fire, of the happy and successful days work accomplished by this machine. I was introduced to the power end of it when very young and can well remember the cold days in winter when there was about three feet of snow and the power on a sleigh. The neighbors coming to work pitching and tend to the grain, also lend their teams. When a little older I made my debut on the band cutting table and after making several gashes in the feeders hands became more proficient at the work and only for the cold weather enjoyed it fine. We used to thresh till Christmas and sometimes after. With this machine we have put through as high as two thousand of oats, and as high as nine hundred and fifty of wheat. This old timer did excellent service for thirteen years, and then was not discarded on account of poor repair in particular but more so on account of the evolution in all machinery. The next purchased was a J. I. Case all through. After the many good days work of the old friend we could hardly feel at home with a stranger, for I don't think that over two hours per year was spent after night repairing. It was always the order of the day to start in the morning and never stop till noon, and then from noon till dark.

The last purchased is a twenty horse simple traction engine and 36x58 separator with feeder, high bagger and blower. It was before the steel separators come out in our district and also before many of the lower auger baggers were general. Perhaps the steel frame is preferable but our wooden one has now run eight seasons and



Rodney J. Parker's S. & M. Outfit at work at Kelwyn, Sask.

paid are very much superior to poor men at any price. By keeping these principles in sight we do not have much trouble with our men and we never have, since we started the threshing business, had a man leave us through any disagreement.

Just a word about that fellow, the price cutter. He is the most unenviable kind of thresher, for he is making it hard for his brother to keep his price as well as losing money himself. Whenever I hear of one of these fellows I feel quite anxious to see his outfit, his men, and the quality of work he does. A close examination of some or all of these very often explains the reason for his taking that mean position.

I would like to see some sort of a threshers union. It has been tried in some localities but has generally been a failure, mostly, I believe,

but when a fellow is full of his subject his pen is very liable to run away with him. So wishing the Canadian Thresherman and Farmer and all the members of the threshing fraternity all the success that is due them, I remain,

Yours truly,

F. C. SAUNDERSON.

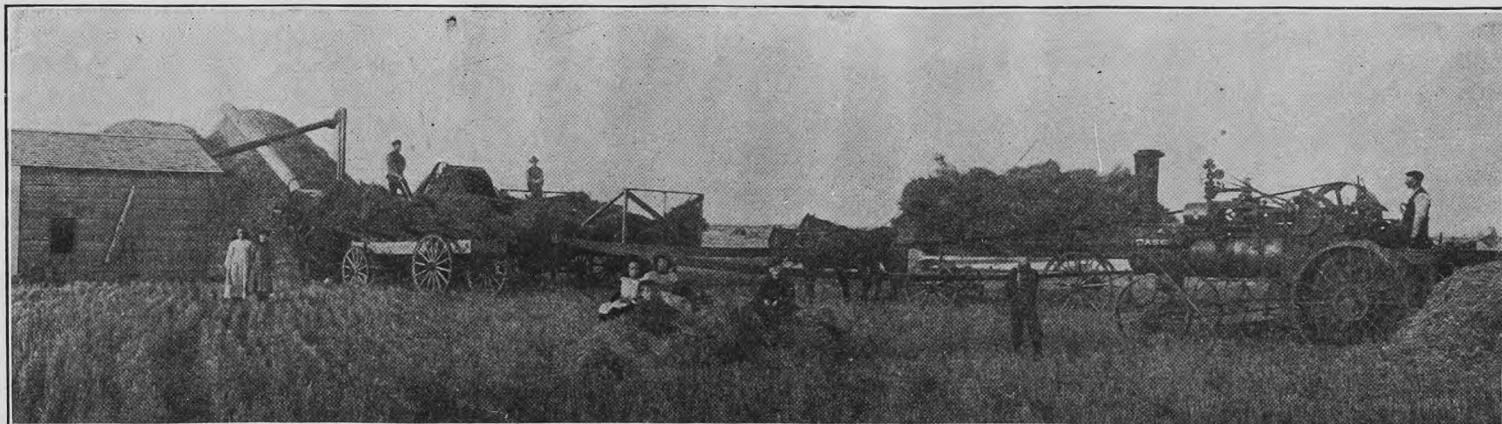
Souris, Man.



Experience as a Thresherman in Western Canada.

SECOND PRIZE ESSAY.

Having noticed in your valuable paper several articles of other men's experience and seeing that this competition is open to all, for those having both good and poor results, I thought it might



A Case Outfit doing its threshing stunt.

shows not the least sign of rotting or sagging. I believe however, that in so far as theory is concerned, that the lower auger bagger has the advantage of not placing such a strain on the entire separator as the high one must.

As I was out with the machine last season and encountered all variations both in grain, weather and people, I will endeavour to relate some that would, I consider, be of interest. While we did not try to do large days work we always managed to do enough to keep us in the field and be ready to accept the jobs considered by us to be paying propositions. I will not say that we were the steadiest running machine in the district for I do not know that, but, I think I am safe in saying that we did not average one half hours loss per day through fault of the machine. A few years ago there were several poor running outfits in this district but the time of the survival of the fittest has come and since a few have gone under in the threshing business the rest here are making money and nearly all run exceptionally well.

I cannot go as fully into the details regarding the running and adjustment of the separator, as my father, who manages that end could, from having the benefit of thirty years experience yet I may be able to give some of the general points to be regarded. Always set the separator level and plumb for this seems to be a great feature in the dividing or separating the grain from the straw. Between this and the feeding lie the greatest principles of successful threshing. We engaged six pitchers and kept two at the feeder all the time. These men did not receive extra wages and were always willing to stay at their allotted position. They considered it the place of honor and did their best to deliver the sheaves with the heads upon the band of the preceding one. We never had any trouble whatever in all the years of threshing with men not doing their duty. There is one boss at the separator and he, and no one else, gives orders at that end. My father merely states what he wishes done and I never have seen or even heard any complaints. If a man does not show signs of working through his own conscience it is not much use to try and scare him into it. We always try to get the men to take a pride in their work and generally succeed.

The successful separator man is not the one who stands in the wagon box discussing politics, price of grain, etc., or the one who stands on the top of the separator watching the sheaves go in till something happens that he could have prevented if in his proper place but the one who is on the ground with his ears telling him if the tune is correct and his eyes studying cause and effect with his hands ready to fix things before they break.

We carry an extra outfit of belts in a box on top of the separator, all the time and altho' seldom have to use one yet they do not take up much room and always pay for themselves sooner or later. The real rawhide lacing lasts the longest and makes the most uniform connection, altho' not quite so easily used.

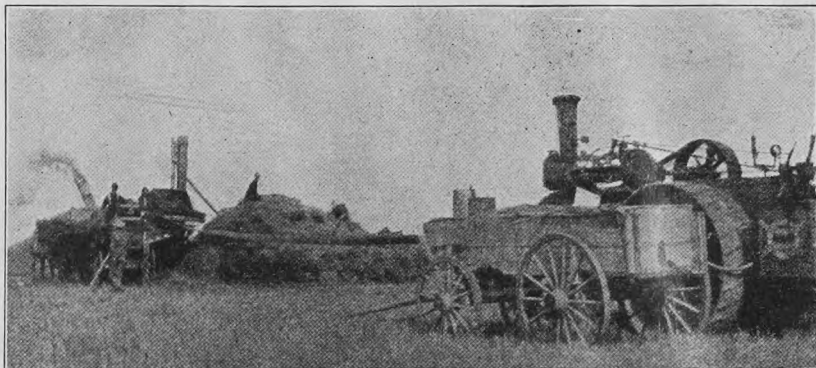
In the morning I usually went out early, and while the fireman was getting steam raised employed myself looking over both engine and separator. I always put the belts on, filled the hard oilers "which we have every place they can be used," had a look at the teeth and cleaned things up in general, going over the engine in the same way. When it was nearing commencing time I oiled all the parts not having hard oilers and we were then ready to start, that is after the separator men had a look at

advice and not able to carry out their statements. After I had dispensed with this fireman I hired a young neighbor boy who had never fired even one day before and here my trouble stopped. I never had to think about steam, as it was always right, and water in its place. Perhaps some may think I am making a rather doubtful statement but my water man can certify me when I say that I only used on an average of two and one half tanks per day. Often running for three days on seven tanks, but more if in wheat, for a majority of the time. That was less water than used by any other I know of in our district. Even fifteen horse engines used as much. I don't exactly know why the others used more but I think and know that it is a great deal in the fireman's hands, and also in the kind of water to regulate the amount. He always

and be worth one thousand. We did not have to put on hardly any repairs, other than a couple of new wrenches, the old ones being lost during the summer, forks and some other small things that are sure to be required almost every year. These small things were recorded, and if I remember correctly, my book being a long way from here, that the cost of fitting the entire outfit was thirty-six dollars, and that included a bagger chain which is still unfolded never being required. The running expenses were, \$17.75 for wages and we averaged somewhat over twelve hundred bushels at five cents per bushel per day for we could not cut for oats and barley unless the farmer had a large quantity, when a small cut was made. This twelve hundred at five cents made an average daily income of sixty, not very large but still a paying proposition. We did not need to buy many repairs and having no bad breaks, I think twenty dollars would cover everything, other than oil. I may here mention that we purchase our oil a year ahead from a firm in the States getting the very best quality for a little lower price, and a very much superior class of lubricant than we get from our home dealers.

We run thirty-three days which is about ten days longer than the average run last year and while I am not longing for the threshing season again, I feel certain that when it comes I will enjoy it, and also feel certain that the machine will run as well.

The only misfortune we encountered happened about the third day. It was very windy, and the grain tough, consequently, quite a large pile of ashes under the engine. We put water on them before moving, but through being stirred up in some way, they caught fire and in fifteen minutes after moving the blaze was coming down the stubble, to where we had set, at a terrific rate. It was lucky that the field was nearly done for the fire didn't stop until reaching the road over a quarter of a mile from the starting point. It burnt about one load of sheaves and it was a good lesson to be very, very careful with the ashes, for had the wind been in the opposite direction, our house and stable would have been hard to save. After that scare, I always shovelled off the stubble around the ash pile



A Waterloo Outfit at work near Miami, Man.

things. It was always first to the machine after breakfast and by using system ran twenty-two days without loosing or bending a tooth. It happened however, that through some misfortune when cleaning up on the twenty-third day a short piece of 2x4 went into the cylinders just at twelve o'clock, breaking seven teeth and bending a few more. This was repaired during dinner hour and so no time was lost.

We will now go to the other end for a short time and deal with things in general again, further along in this article. Well, I found myself allotted to be engineer, and so hired a fireman foolishly too, because he said he had run all kinds of engines, but was not well acquainted enough in the district to get an engine. I would advise every thresher to procure, if possible, a young man well-known to yourself, for he is then ready to learn and avoid most of these know-it-alls, who are always ready to give

carried one or one and a half inches in the glass and never run any higher unless before moving. I found also that the cleaner the water the less it required, so used every possible means to avoid mud getting into the boiler.

Besides running the engine I kept the men's time, and also a full set of books regarding the expenses and receipts. It proves out the best that one man should be boss and the other do the keeping of time. The success or otherwise often lies, I believe, in the management of the cash account. Some men do big days work and still do not make a success. Before starting out I made an estimate or inventory of each and everything connected in any way, valuing the outfit having run seven years previous, at twelve hundred dollars. This may seem high and would be high for a poorly cared for machine, but there is no reason whatever why a machine shouldn't run ten years



Avery Outfit of Isaac Dyck Winkler Man

as well as putting water on it.

This article may not go as much into detail as some do. I did not think experience with farming, cleaning boilers, belts slipping, etc. would be of very much interest to my fellow threshermen, everyone knowing what is required to be done in such cases, but I think there are too many threshers running and not keeping a close money record of the expenses as well as the receipts. Also I believe that, although there is considerable difference in the different makes of engines and separators, the success more often depends upon the man in charge than upon the individuality of the machine. In closing I wish to say that I have found experience to be a sure teacher, but sometimes or rather often, an expensive one and I would certainly advise every one contemplating threshing next year to read all the obtainable on the subject. I am sure, as I have found it myself that there is some one small thing in the 'Canadian Thresherman' every month that is worth more by far than the subscription price to any thresherman in Western Canada.

E. WARD JONES.
Carman, Man.



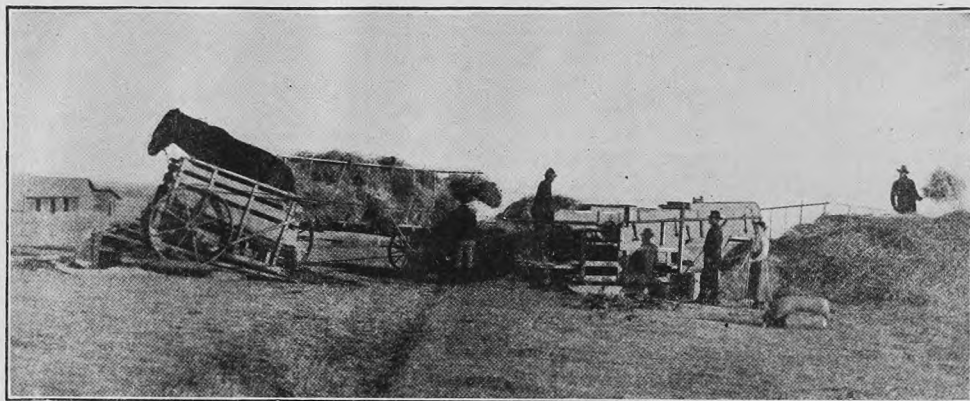
Some Good Advice.

THIRD PRIZE ESSAY.

I generally look after the separator, and before the threshing season begins have everything in good shape for running. Do not wait until I begin on the first job and perhaps be on the farm for three or four days, when two should do his threshing. I have a Sawyer & Massey Engine and Great West Separator, and like it very well. It seems to give good satisfaction, can always thresh in the same locality the following year. Some will tell you one machine is so much better than another, of course there is a difference, but not so much as represented. I think there is more difference in the way the machine is handled than in the machine itself.

I always have a full gang, for it does not pay to run with a couple of men short.

You hear different arguments on how a thresher should have his men placed. Some think it would be better to have all the pitchers in the field and none at the machine, but that is a big mistake. I always have two spike pitchers and let them do all the pitching into the machine and the teamster places the sheaves to them. You can put through a great deal more besides being easier on the machine. In the first place I don't care how good the pitchers are, when two are pitching into the machine there will be times when both will pick up a sheaf at the same time consequently one will wait for the other to put his sheaf into the feeder and perhaps then both will throw them together.



This kind of an outfit is still to be found in some sections.

which means one on the top of the other.

My separator is 36x68 and I use eight stook-teams and four pitchers in the field and two at the machine. I make the stook-teams draw straw to the engine, side about, this makes it the same for the pitchers. It works very good. A thresher has to keep every body busy to make money.

I always pay the wages that are going, and am not all summer trying to hire men for twenty-five and fifty cents cheaper than going wages. Because then generally you have an inferior class of men and another thing you are liable to lose them before the season is over. If a thresher would lose one or two men in the middle of the season, it would mean a loss for him.

I never had a man leave me yet, if he did it was to go home to Ontario and not to look for work elsewhere.

I threshed about sixty-four thousand bushels of grain last fall. Got in forty-six days.

It was not a very good fall for threshers, there being a lot of wet weather, but I was very lucky, as there were stacks close by to pull into. I don't think I lost more than nine days altogether when some of them lost three weeks.

The wheat only averaged about twelve bushels to the acre, and oats about thirty-five.

There is a vast difference in farmers, some think you should pull by their neighbors and thresh them and then pull back, perhaps a mile or two, and thresh those that you had passed in coming to them.

When a man comes to me to see

have a cause to complain, for I saw some straw that was threshed last fall and it was a shame, the grain that was in it.

I did not make any record threshing last fall, for, the crops did not yield according to the straw at all. About three thousand was the biggest days work we did. Twenty-two hundred of oats and eight hundred of wheat.

The worst job a thresher has is collecting. I had more trouble collecting than I had threshing and there was one farmer that I have not got a cent from yet, but have a line on some implements he owns. I use the lien notes, but he got his wheat away before I got after him. I have driven to some of the farmers half-a-dozen times before I got a settlement. Of course they were not all to blame as they could not get cars to ship their wheat and only had enough to fill a case. There were only four or five paid promptly and I had to haul one man's grain to get my threshing money.

There was a stone that went through the separator about eleven o'clock one day and smashed the concaves and knocked out a couple of teeth, but we were at work the next morning. I took it out to town and had the blacksmith fix it, and another day just in the morning, we moved from the setting we were at the evening before and just got set and

started to thresh when the hand hole blew out, so that delayed us a couple of hours. I would sooner do that than fill up the boiler too soon and perhaps have the flues leaking.

This was all the accidents we had last fall. I think I might consider myself very fortunate.

Hoping this letter will receive your consideration, I am

yours respectfully,

D. J. McRAE.

Wauchope, Sask.

A Good Record

FOURTH PRIZE ESSAY.

As I have been a reader of your valuable paper almost since it first started in Winnipeg and have read with great interest the experiences of threshermen and have profited by some of them. I will try and give you my experience in a rough way as I never wrote a letter of this kind before.

I own a J. I. Case outfit: a 15 horse compounded engine and 36x58 wood separator with Ruth self feeder, No. 2 Dakota weigher and Case wind stacker. My rig has run seven seasons, and I think it is good for a few more seasons yet. I have a good shed with shingle roof in which I keep the separator when not threshing with it. During the summer I always overhaul the separator, taking it all apart and rebuild it



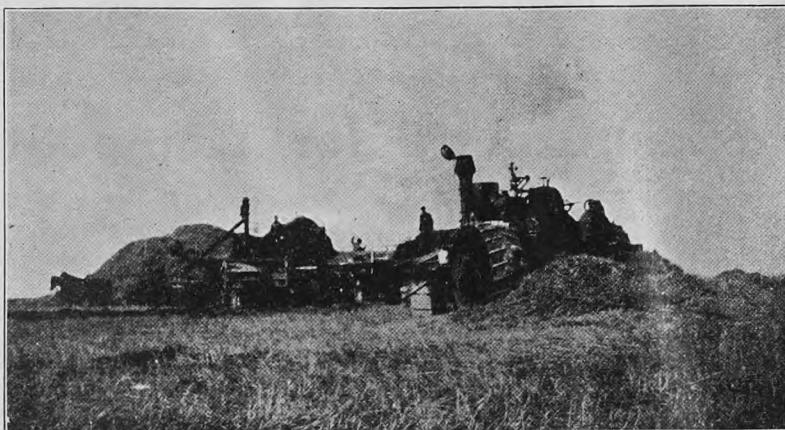
An American-Abell Outfit making No. 1 Hard.



again. I then see all that is needed in the way of repairs, such as worn boxes or shafts, etc. If boxes are of wood and worn so as to give much play to shaft I put in new boxes and shaft if necessary. If metal boxes I put shaft in lathe and if it is worn out of round I true it up. I then take a sheet of writing paper and put on shaft at place for boxing. I either take a little mucilage and put along edges of paper to hold it to shaft, or tie a good heavy cord round it in such a way as it will act as oil grooves in box after being run. Having paper on shaft gives a smoother box and saves having to scrape out the shrinkage after metal cools. After getting shafts trued up (if needed) and boxes run I start to put machine together, first putting in all new teeth required in cylinder and balancing same, then decks and shafting, adding new pieces wherever needed, until I have it all completed. I then go over belts and lace any needing new laces. (Might say I always keep an extra blower and deck and feeder belt so if one breaks we can slip on the other and go ahead with little or no stop and lace the broken belt at leisure.) After getting belts laced I take some gasoline and waste and clean all painted parts quite clean, and sometimes I give it a coat of varnish. I then go over engine although it has taken very little to keep it in repair ever since I got it. I hired an engineer the first two falls, but have run the engine myself the last five seasons. I keep everything nice and tight, but not tight enough to heat, and use plenty of good oil. I use an Acorn oil pump for oiling cylinder. I also have a swift lubricator for emergencies, but very seldom use it as the pump is far handier and never wastes any oil. About the day before I start to thresh I get my separator man and steam up and put belts on separator, and run it from half a day to one day until we get boxes adjusted so that they will not heat and belts about right tension. I always try to get two or three of the men I had the year before as they know how I work things, and it is a big help towards making a good start, having got my men and machine together we make a start usually at my own place. We don't usually have much trouble as every part of the machine is as good as new. I never argue or nag with my men; I tell them what I expect them to do, and if they get very rusty I give them their money and get some one that will do the work as I want it done. We have four pitchers, one separator man, one waterman, one fireman and myself at engine. In the stook threshing season the farmers find the stook teams themselves, and I must say they do very well. The first set we get machine set and ready while teams are being loaded. When we are going to move I have two of the pitchers come in from the field and help to clean up. As soon as the separator man gives signal to stop

one of the pitchers throws off drive belt and the other gets on top of separator to pull up belt, by the time belt is up we are coupled on with engine and start for next set; the two pitchers go along. I have a coupling bolt with a large eye in top so fireman can get hold easy to pull it out as soon as I throw off friction clutch. The two pitchers run out drive belt and help to put it on. We are then ready to start. We don't lose much time moving and setting as I think the time to hustle is when machine is not running.

We generally have about three weeks stack threshing after stooks are done. We have a straw cart which we couple on top of separator tongue to hold straw for firing while moving. It holds enough straw to fire about a mile on a good road. I



Gaar-Scott Outfit of Otto Stamm, Windlehorst, Sask.

think it far handier than throwing fork-fuls of straw on the road for fireman to get, and it makes no mess on road to scare horses. When we start at stacks we put two men to fold feeder carrier and couple on straw cart and two to handle belt as mentioned before. We never try to make or break any records, but try to run nice and steady all day, and at the end of the season we always have a nice average. I charge 4c. per bushel for all kinds of grain that is wheat, oats and barley. We thresh mostly wheat as there are no oats or barley grown for sale in this district. The separator man takes off all belts every night, and puts them in drum of blower, it keeps belts dry in case of dew or rain or frost. We have some belts on separator that came with it seven years ago, and they are good yet. We wash out our boiler as often as needed to keep it good and clean. I always carry a piece of old canvas sack and some cotton waste and when not busy I wipe off the brass fitting and jacket of boiler, and try to keep it looking clean as well as running smooth.

When season is over we start and stop (with separator empty) a number of times to let dirt and dust settle and

be blown out of inside of machine. We take machine to shed, take off belts, and take a couple of old brooms, and sweep off all dirt and dust from top and sides of machine, and put machine in shed. I take a small rope or strap and hang belts to a beam, away from wall or floor, so mice and other vermin will not get at them to chew and destroy them. We wash out boiler and clean out firebox and ashpan, repack handhole plates and leave boiler ready to fill when next needed. I then pay up my help and ask two or three of them for the next year if they are wanting a job threshing, and I generally get them again.

I always try and use men as I would like to be used myself if I were in their place and they are always ready to help out of any

Double Satisfaction

Nothing is more satisfactory than to be able to secure honest goods at fair prices. Nothing is more satisfactory than to deal with a merchant whose guarantee on some particular line of goods is an absolute protection because the manufacturer of the goods stands back of the merchant. This is the case in dealing with those merchants who handle Rex Flintkote Roofing.

This roofing has been on the market for many years, and it is worthy of note that the merchants who handle it and whose endorsements have appeared in these columns are all enthusiastic believers in the quality of Rex Flintkote Roofing and in the fairness of J. A. & W. Bird & Co., the manufacturers of this celebrated prepared roofing. We advise you to ask your dealer about Rex Flintkote when you need roofing. He may tell you there are cheaper roofings; but he cannot say there are better and more durable ones.

We advise our readers to send for "Rex Flintkote" booklets to J. A. & W. Bird & Co., India St., Boston, Mass., and note how this firm does business.

As the teacher read out to her class a portion of Sir Walter Scott's "Ivanhoe" she came upon the word "eloped." "Now which little boy," she asked, "can tell me what the word 'eloped' signifies?" A dead silence following, she explained. "It means 'ran away,' 'carried away,'" she explained. "Do you understand? Well, and which little boy can now give me a sentence with the word 'eloped' in it?" "I can, miss," answered a small boy at the back of the classroom. "Mr. Green's dog has eloped wiv my farver's dinner."

Most children are good listeners as well as good observers, and, more than that they are quick to use the knowledge acquired through keenness in these directions. A case in point is that of little Janet, who had evidently spent part of her day in the kitchen and had overheard remarks made by the cook. Like all good girls, little Janet said her prayers regularly just before being tucked in for the night. On this particular night she said: "God bless me, bless father and mother and everybody; make me a good girl, keep me pure—pure as Loyal baking powder. Amen."

little trouble we may get into, such as sandy or muddy roads or fields.

I think this letter is getting rather long, so if you think it is worth printing you may print it. If not throw it in the waste basket.

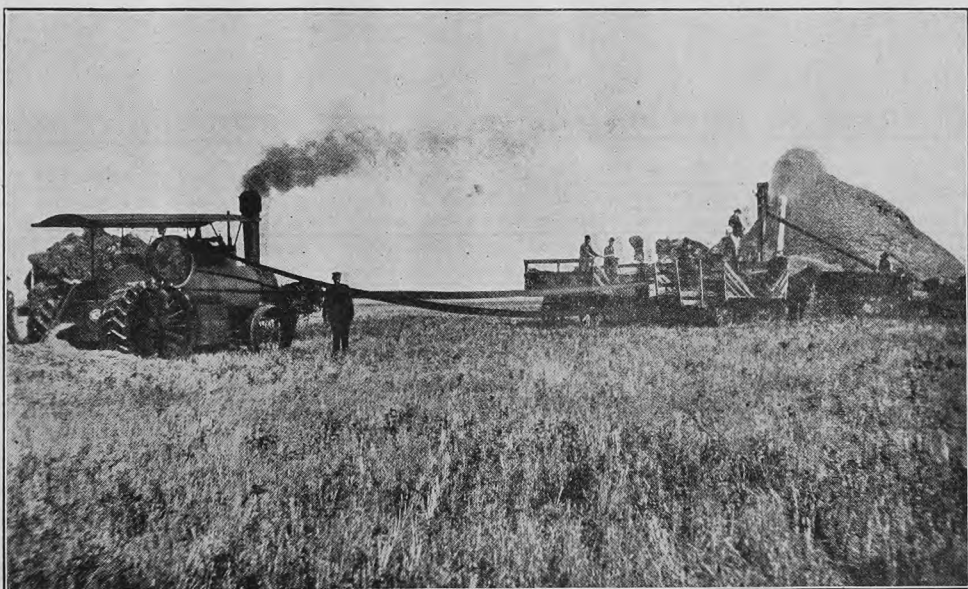
Wishing you and the "Thresherman" all kinds of success, I remain,

Yours truly,

ROBERT HUNTER

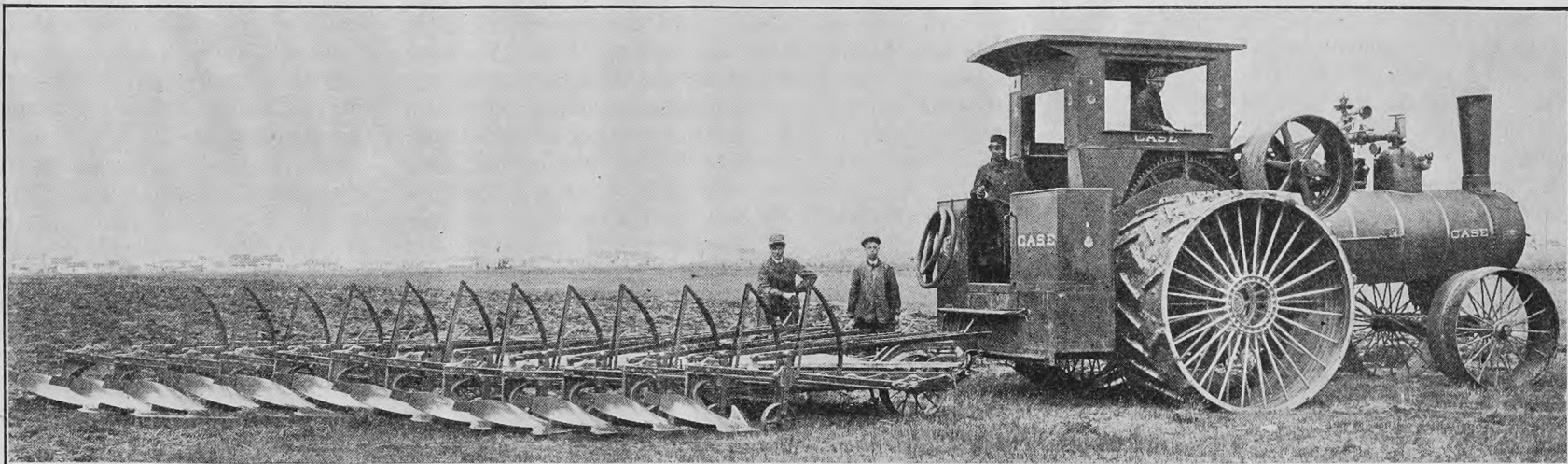
Neepawa, Man.

After all, depend upon it, it is better to be worn out with work in a thronged community than to perish of inaction in a stagnant solitude; take this truth into consideration whenever you get tired of work and bustle.—Bronte.



A Rumely outfit owned by Jas. McDougall Nokomis, Sask.

Cockshutt Engine Gang



The Gold Medal Winner at Winnipeg in Steam Engine Class, with Cockshutt Engine Gang attached.

Winnipeg Agricultural Motor Competition, 1909

Winner of GOLD MEDAL in Class "D" (Steam Engine Class) used Cockshutt Engine Gang in breaking.
 Winner of GOLD MEDAL in Class "B" (Medium Gasoline Engine Class) used Cockshutt Engine Gang in breaking.
 Winner of Silver Medal in Class "C" (Heavy Gasoline Engine Class) used Cockshutt Engine Gang in breaking.
 Winner of Bronze Medal in Class "A" (Light Gasoline Engine Class) used Cockshutt Engine Gang in breaking.
 Winner of Bronze Medal in Class "B" (Medium Gasoline Engine Class) used Cockshutt Engine Gang in breaking.
 Winner of Bronze Medal in Class "C" (Heavy Gasoline Engine Class) used Cockshutt Engine Gang in breaking.
 Winner of Bronze Medal in Class "D" (Steam Engine Class) used Cockshutt Engine Gang in breaking.



Work done at Winnipeg Competition by Gold Medal Winner in steam engine class, using Cockshutt Engine Gang.

14 in. bottom varied greatly with all makes of engine gangs used. For instance the draw bar pull on the engine gangs of another firm varied from 550 (entry, No. 6, Class "B") to 875 (entry No. 3, Class "C") per 14 in. bottom. Our own make varied almost as much. We mention this not to take advantage of the facts but to show that comparison of draft as far as the plows were concerned is useless.

If there is anything in draft comparisons, remember this:

The two Cockshutt Engine Gangs used in the Steam Engine Class plowed with 123 and 127 lbs. coal per acre, whereas the other two of another make took 135 and 143 lbs. coal per acre. All four outfits were working side by side in the same kind of sod. The two outfits with Cockshutt Engine Gangs attached (though using less bottoms respectively) plowed at the rate of 17½ and 18 minutes per acre in hard sod; the other two at the rate of 17½ and 23¾ minutes per acre. The Cockshutt Engine Gangs were turned and handled easily at the ends and gave no trouble of any kind. The work done by these two outfits, using Cockshutt Engine Gangs, was admitted by all spectators to be far superior to anything else in the contest.

Cockshutt Engine Gangs are operated by one man only

Cockshutt Plow Co., Limited

WINNIPEG

REGINA

CALGARY

EDMONTON

The Recognised Leader



Gold Medal Winner in Class "C" using Cockshutt Engine Gang in Stubble at Brandon.

Brandon Agricultural Motor Competition, 1909

Winner of GOLD MEDAL in Class "B" (Medium Gasoline Engine Class) used Cockshutt Engine Gang in Stubble.
 Winner of GOLD MEDAL in Class "C" (Heavy Gasoline Engine Class) used Cockshutt Engine Gang in Stubble.
 Winner of GOLD MEDAL in Class "D" (Heavy Steam Engine Class) used Cockshutt Engine Gang in Stubble.
 Winner of GOLD MEDAL in Class "E" (Light Steam Engine Class) used Cockshutt Engine Gang in Stubble.
 Winner of Silver Medal in Class "D" (Heavy Steam Engine Class) used Cockshutt Engine Gang in Stubble.
 Winner of Silver Medal in Class "E" (Light Steam Engine Class) used Cockshutt Engine Gang in Stubble.

The purchaser of the Gasoline Engine which took the Gold Medal in class "C" at Brandon immediately gave us his order for a Cockshutt ten-furrow engine gang, fitted with stubble bottoms and swivel rolling colters, after following up the work done by the different makes of engine gangs in stubble plowing at Brandon. The work done satisfied the most critical. The land was beautifully plowed, was left level, and the straw was covered perfectly.

Winnipeg Competition

We have never claimed or represented that the Medals were given for plows. Everyone knows that the competition was for engines. But we do claim, and have proved conclusively that the superior quality of the work of Cockshutt Engine Gangs is recognized the world over by farmers and the steam and gasoline traction engine manufacturers of England, the United States and Canada. Their knowledge of the faultless work of Cockshutt Engine Gangs in both breaking and stubble led practically all of the competing engine manufacturers to apply for our Engine Gangs to be used with their engines in the plowing tests. The demands on us were so great that we were unable to supply plows to all who applied for them. This is not an exaggeration. We have the letters to prove it. Besides this we wished other manufacturers of Engine Gangs to be represented so the superiority of our own, side by side, could be shown.

Quality of Work

Some reference has been made to the quality of work done. All spectators know that the work done with our Engine Gangs was vastly superior to anything else in the contest; but for the benefit of those who were not present we reproduce herewith photographs of actual work done at the Winnipeg Competition by Cockshutt Engine Gangs. We can also reproduce photographs of the plowing done by another make, side by side, which is decidedly inferior, but we hesitate to make invidious comparisons. It is only necessary for us to establish that our own work was perfect and all that could be desired.



Work done in breaking at Winnipeg Competition by Bronze Medal Winner in steam engine class, using Cockshutt Engine Gang.

Ask any one of 700 users whether that is not true.

Cockshutt Plow Co., Limited

WINNIPEG

REGINA

CALGARY

EDMONTON

SEPT.

THE CANADIAN THRESHERMAN AND FARMER

CANADA'S FARM MACHINERY MAGAZINE

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"Everything begins and ends with the soil."

E. H. HEATH - President and Manager
E. W. HAMILTON - Editor

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THERE is one thing that is evidenced in Western Canada among the farmers more than perhaps anything else. It is the thing that strikes the prospective farmer from the Old Country or from the Other Side of the Line and that is that there is a shortage of crops other than grain.

No where in the world can we raise any better potatoes or any better vegetables than can be raised in Western Canada; yet nearly every winter we see the prices of vegetables unusually high and the price of potatoes up to \$2.00 per bushel.

There is a shortage of these crops and there is absolutely no reason why the farmer can not turn a pretty penny by devoting a certain amount of time and a certain amount of land to their cultivation. They are not difficult to raise and when it comes to potatoes, there is no better crop that the farmer can cultivate in order to clean out certain weedy patches.

One of the reasons why our land becomes so foul here at times is that there is too much grain raised and there is absolutely no chance to clean it out. Summer fallowing helps it out to a certain extent, but even this does not clean the land like a good root crop. Furthermore, there is no crop that will whip a good piece of heavy gumbo into shape more than the potatoe crop. There is a constant stirring and a constant cultivation that breaks up the soil, exposing it to the light and to the air, which is just the very thing that the heavy gumbo that has been locked up for years under a heavy growth of prairie grass needs. When you have

harvested your crop this year, just stop and figure up what a few acres of potatoes if you had them to dig would mean to you, or if you had a few loads of vegetables that might be sold. We can hear the farmer say that there is no market for vegetables and in reply we will state that there never will be a market until the farmer begins to raise these things. Why is it that Winnipeg and Minneapolis are the two greatest wheat markets on the American Continent? Simply because wheat is the crop that the farmer raises.

If the farmer has something to sell that somebody else wants to buy, it is only a very short time until there will be a middleman establish a market for the handling of these products. Just think it over and I believe that you will come to the conclusion that you can make a few extra dollars by the raising of some of these root crops.

* * * * *

It used to be said that as a business man the farmer was a dismal failure. Those who held this opinion said that because his nose was so constantly on the grind stone and his hand so warped around the handle of his hoe, it could not be expected that he would have the time to study business methods and that his time would be too fully occupied with his farm work to put them into practice if he had.

To-day the farmers of the country are being considered as among the most careful business men in the world. This is not a statement made at haphazard. Facts warrant it. Not that the farmer handles more money than men in other lines of business. That we all know he does not, but it cannot be successfully disputed that his judgment on matters of finance, good government, and all other questions calling for good hard common sense is not to be questioned.

The editor of an influential city daily not so very long ago, paid the farmer a fine tribute when he said, "In this City there are thirteen supervisors, while from the country towns sixteen members sit on the Board at its Annual Meetings. There are some who have thought it would be wise, in view of the fact that the town pays considerably more than half the taxes of the municipality and has more than half of the population that therefore we ought to have a majority on the Board. That is not the opinion of the most thoughtful men. We know that it is not best for a municipality to have a majority of supervisors from the city. We want the balance of power to stay where it is—with the farmers. They are better qualified to care for the interests of the municipality than would be a body in which city men made up the majority. They are more careful, more conservative and more economical in their administration of public affairs."

Here we have the candid judgment of a man who is a close student of affairs and knows the people of both city and country. It is not a point at issue just now as to the comparative ability of

men in town and men in the country. However, just one thing we wish to assert, and that we wish to assert very positively, viz.: whatever may have been true of the farmer in the past, he is to-day to be classed as one of the best business men that we have and worthy of the highest recognition as such.

Agriculture has broadened until it has come to mean a great many more things than it used to. Dr. Robertson, who is to be classed among the most eminent agricultural teachers of Canada emphasises the present trend of thought when he says: "Agriculture not only includes cultivation of the land, but the culture of the people who live on the land. The agricultural press for a time confined its field exclusively to scientific and practical agriculture. Now the more progressive farm papers cover the whole range of rural activity."

Soil culture, stock husbandry, farm machinery, crop marketing, the rural school and church, the sociological and political problems which in any way effect the welfare of the farmer, they take the position that the proper rearing of the farmer boys and girls are of as much importance agriculturally as the rearing and training of colts and calves. It is now seen that pure bred farmers as well as pure bred live stock are essential to permanent success in farming; that if we are to have better farming we must have better farmers, and that in order to raise agriculturally to a higher plain of civilization, we must have a purer and a better educated citizenship.

Agriculture means more in the year 1909 than sowing and reaping the harvest and marketing the wheat at over a dollar a bushel. It means that the farmer shall get into the game for everything that is in it and that he does not succeed unless he gets everything out of it.

* * * * *

What is your boy going to do this winter? Many of our farmer readers doubtless have sons who have finished the common schools and whose work during the winter months is not very clearly defined. There probably is not a great deal that your boy can do during the winter. There is stock to tend and a certain amount of hauling to do, going to town occasionally, etc., etc., but as a young man with the future before him and his own destiny to carve, do you really think that these odd jobs give him very profitable employment for four or five months? Are they training him in any way for his future work as a prosperous and progressive farmer of the West? Have you ever considered very seriously of sending him to one of the Agricultural Colleges. Have you ever considered that these colleges are provided and maintained for just such boys as yours?

Modern agriculture has got to the point where it has ceased to laugh at the agricultural college, but on the other hand has placed it upon the plain of highest respect. It has come to realize that the agricultural colleges equipped and maintained as they are to-day are among our most valuable agricultural assets; and maintained as they are by the different provinces, the cost of attending these colleges is so small that practically every boy who so desires can afford to spend a few months every winter at one or the other of them.

Do not think that your boy, because he attends an agricultural college, will come home with ideas that are away and beyond the ordinary farmer, far from it. Any boy who attends the agricultural college for three or four winters and who plays the game for the love of it will come back to the farm fitted to turn that particular farm from a place of drudgery to a place that he loves and respects and out of which he can make every dollar that it is possible to make. Do not think that because your boy has an agricultural college education that it will require all kinds of money in order to carry out the ideas that he has taken away from the college, but rather on the other hand your boy will come home equipped to make more money where he could never make it did he not have the training.

Two or three hundred dollars spent on your boy this winter and for the next three or four winters will place in his hands the most valuable asset of his life, and he will honor and respect you to and beyond the grave for what you have done for him.

* * * * *

You will always find it a safe rule to take a thing just as quick as it is offered—especially a job.

OUR GUARANTEE.

No advertisement is allowed in our columns until we are satisfied that the advertiser is absolutely reliable, and that any subscriber can safely do business with him. If any subscriber is defrauded, E. H. Heath Co., Ltd., will make good the loss resulting therefrom, if the event takes place within 30 days of date advertisement appeared, and complaint be made to us in writing with proofs, not later than ten days after its occurring, and provided, also, the subscriber in writing to the advertiser, stated that his advertisement was seen in "THE CANADIAN THRESHERMAN AND FARMER." Be careful when writing an advertiser to say that you saw the advertisement in "THE CANADIAN THRESHERMAN AND FARMER."

WE WIN THE GOLD MEDALS

AT WINNIPEG

THE TRACTION ENGINE CONTESTS recently held at Winnipeg have aroused considerable interest in the subject of farm motors. Never before was there such a large number of engines (varying so widely in sizes, designs and types) entered for competition at one time. There were three classifications for gasoline engine tractors, the maximum number of points in the score being 145.

The International gasoline tractors were awarded the following prizes:

1st Prize (Gold Medal) in Class A—15-H.P.

1st Prize (Gold Medal) in Class B—20-H.P.

Sweepstakes Prize (Gold Medal)

(Awarded for Highest Number of Points Scored in the Competition).

The contests at Winnipeg leave no doubt as to the superiority of International gasoline tractors for all farm purposes—hauling, plowing, threshing, etc.

If you desire to buy a tractor you should buy the International gasoline tractor, because we have demonstrated at Winnipeg that these tractors are the best farm tractors—and the best is none too good for you.

The I.H.C. line of gasoline engines includes many styles of stationary and portable engines in sizes from 1 to 25-horse power, and they are all as good as the traction engines.

Now would be a good time to purchase an International engine.

Call on the local agent, or write the nearest branch house for full particulars.

INTERNATIONAL HARVESTER COMPANY OF AMERICA
Chicago, (Incorporated) U.S.A.

Canadian Branch Houses:

BRANDON, MAN.	CALGARY, ALTA.	EDMONTON, ALTA.
HAMILTON, ONT.	LONDON, ONT.	MONTREAL, QUE.
OTTAWA, ONT.	REGINA, SASK.	SASKATOON, SASK.
ST. JOHN, N.B.	WINNIPEG, MAN.	





GOLD MEDAL FIRST PRIZE



AT
WINNIPEG-M

EXPOSITION JULY 2

WAS THE

"CASE" 32 HORSE PLOWING

for economy in operation.
amount of work accomplished.
ease of handling in operation.
accessibility of parts
and design over Foreign
and American Engines.
including Double Cylinder
Compounded Plowing
Engines.

STEAM PLOWING IS DONE BEST and CHEAPEST
— Buy the

J. I. CASE THRESHER

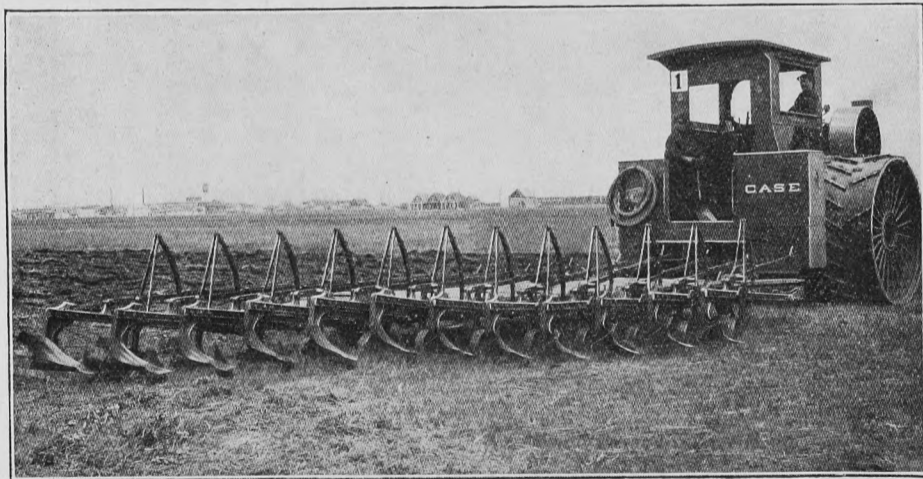
INCORPORATED
RACINE WISCONSIN

THE MEDAL AND PRIZE WINNER

AT
REG-MANITOBA
JULY 7 to 17-1909
WAS THE



SE G SIMPLE STEAM ENGINE



CHEAPEST with "CASE" PLOWING ENGINES.
the "CASE"
SHING MACHINE CO.

INCORPORATED
E WIS · U · S · A ·



Chicago
ENGR CO.



AT this season of the year or perhaps a little later, one of the most serious problems with which the farmer has to contend is the meeting of payments. This is especially true if he be a beginner, with every dollar wanted and a load of debt soon coming due staring him in the face.

There is a lot of credit given in Western Canada by implement men and others to the farmers, in fact it is one of the principal things that makes the country's rapid development possible. It is the thing that has enabled many a new settler to start, for what with cheap land, and a big yield of wheat the first year it is quite easy for a new settler to very soon get hold of some ready money. But even with these things in his power the beginner often times finds himself face to face with a very serious proposition in the way of making payments.

To offer any solution to the problem that would prove satisfactory to all would be absolutely impossible, but a few general remarks along this line may not come amiss.

In the first place I am going to give some very old, but still wholesome advice, viz. "Don't get in too deep to start with." It is always bad policy to load up to heavily building on the expectation of a bumper crop, and when later on rates become due, find that you have been hailed out, frozen out, etc., etc., and that your crop is in no way a bumper one. Such being the case your funds exhausted and with very little revenue in sight some provision must be made for taking care of the payments as they fall due.

If you live in a section that has had a bad crop generally the merchant, the implement dealer and others in the town who have done a credit business with the farmers are all "up against" it, so to speak, for they have payments to make on the goods they have sold the farmers and are depending on these same farmers to come forward with the cash. It is a problem in which all are vitally interested and the sooner all get together the easier its solution will be.

We will say, for example, that the statement of a farmer's finances are as follows:

ASSETS.

320 acres of land valued at	
\$20.00	\$6400.00
Farm equipment valued at	\$1000.00
Live Stock, including farm horses	\$2000.00
Total Assets	\$9400.00

LIABILITIES.

Land carries a mortgage of \$3000.00, interest at 7% making an interest charge of \$210.00 together with a payment of \$500.00 makes a total liability against the land that must be met this year of	\$710.00
Notes due Nov. 1st on machinery	\$700.00
Two farm teams to be paid for Nov. 1st as \$350.00 per span int. at 7% was	\$374.50
Groceries, clothing, farm repairs etc. etc., during summer	\$200.00
Herd help	\$50.00
Threshing Bill based on 200 acres of wheat, 8 bushels per acre and 6c per bushel and 40 acres of oats, 20 bush. per acre, 4c per bushel	\$128.00
This makes a total liability of	\$2612.50

Now let us see how the farmer is going to meet this payment from his farm revenue, assuming that he got only the crop yields mentioned above which are low and can be classed in a poor crop.

1200 bushels of wheat	
65 c., leaving out sufficient for seed another year	\$780.00
500 bushels of oats at 35c. holding out enough for seed and feed	\$175.00
Live stock sold	\$500.00
Total	\$1455.00

\$1455 from \$2612.50 leaves \$1057.50 that someone must carry. But you will say there is the hay and other small crops about the farm. True but you will notice I have not put in taxes, doctor's bills and the hundred and one little expenses that always accrue on the average farm, which the extra crops will no more than balance.

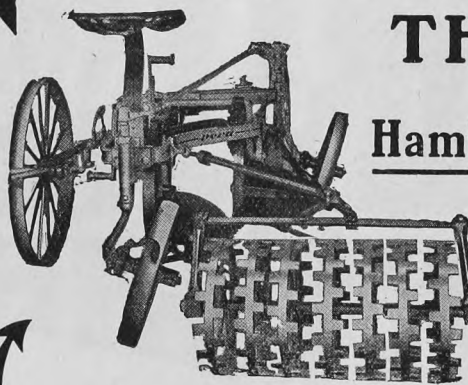
Presuming that the above statement of facts are fairly correct it is quite evident that the farmer cannot meet all of his payments. If some of the creditors are paid in full others must of necessity go without a cent, and in so far as the farmer is concerned his credit is renewed with those men whom he has not been able to pay.

It seems to me that when a farmer finds that he is going to be very short in funds with which to meet his payments, that the thing to do is to go to all of his creditors with a full and complete statement of his revenue with promises to pay off a portion of the indebtedness proportionate to this revenue. Some claims are prior and in full such as a thresh bill, wages, etc.,

CLEAN YOUR LAND THIS FALL

ATTACH A

Hamilton Pulverizer



To your Plow when Fall Plowing.

The PULVERIZER will pack the soil around all seed in the ground. Wild Oats, etc., will germinate.

Then King Frost comes and kills everything that has sprouted.

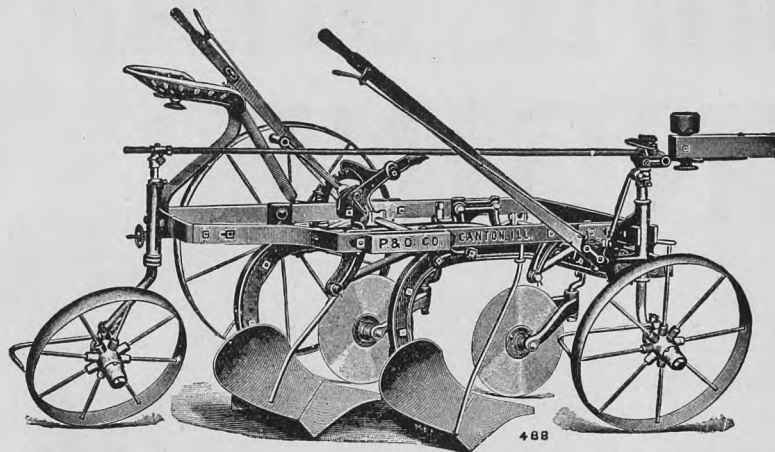
Your land is left in a clean and productive condition. Otherwise all seeds lie dormant till Spring. Thousands of farmers have proven to themselves and to their friends that our PULVERIZER will clean the land. If no local dealer write direct.

The Hamilton Pulverizer Co. Ltd. 346 Somerset Building, WINNIPEG, Man.

P & O CANTON DIAMOND GANG

THE PLOW FOR THE FARMER

It stands for more Plow Quality than any plow on the market to-day



Strength, durability, ease of operation and lightness of draft are four features pretty hard to combine in one implement, but this was accomplished in building the Diamond and our general Catalogue will tell you why and how. The Diamond Plow of 1909 embraces the "knowing how" of 67 years of successful plow building.

There are many imitations but only one satisfactory controlling device and it is found in the Diamond. The only plow made with which the driver can "back up" or turn a square corner without touching a lever. You, as a farmer, will appreciate the advantage of this.

P. & O. CANADIAN PLOW CO. - WINNIPEG

DISTRIBUTING HOUSES: BRANDON, REGINA, SASKATOON, CALGARY.

Look Here!

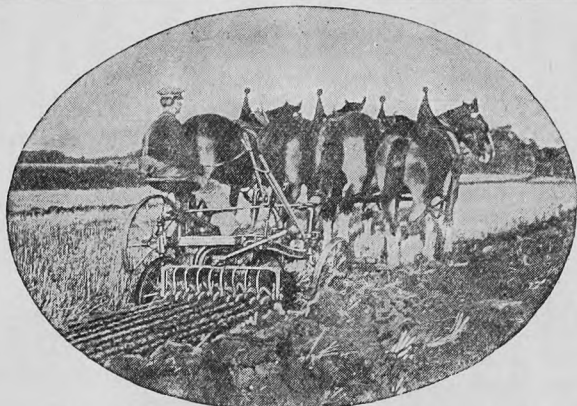


For this month we will deliver at your home town a first-class Roll Top Desk in Elm at \$25.00, or Oak at \$27.50. This is a dandy!

We stock a full line of Cabinets and Supplies for your collections, etc.

HAMBLY & KILGOUR

255 Notre Dame Ave., Winnipeg



Have You Investigated THE BEST YET in a

Rotary Harrow?

There is only one implement of the kind made which has been AN UNQUALIFIED SUCCESS as a HARROW for PLOW ATTACHMENT, and that is

THE KRAMER.

After the most exacting tests, carried over a wide field of trials, THE KRAMER has come out top dog on every occasion.

It is made of high-grade steel, has Lever Adjustment and Spring Compression, without which all other devices have proved a disappointment and failure.

Its value as an Agricultural Necessity is established by the fact that during three years of Steady Progress and Unexampled Success, over 5,000 farmers have been using it in preference to all else in the implement world.

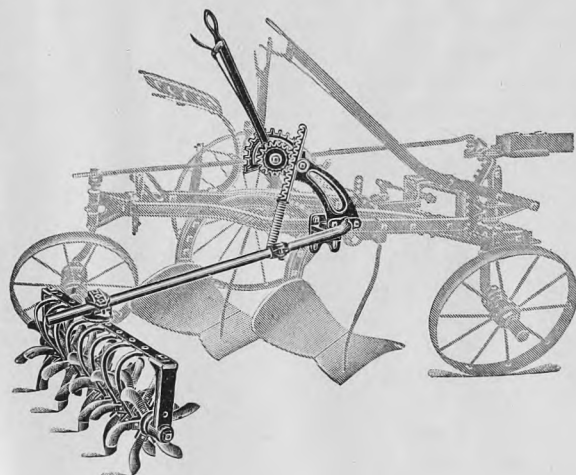
It effectively combines the functions of the Harrow, Packer and Pulverizer in preparing a perfect Seed-Bed.

Made in a variety of styles at a price within the reach of every one, and you can get it freight free from any implement man, on the most convenient terms.

There are no "awkward hitchings" and chains to pull. It is simplicity simplified, with dirt-proof bearings, and so light is it behind the plow that the most intelligent team will fail to notice the extra draft.

Strongly recommended by the State and U.S. Departments of Agriculture.

See your nearest implement man, or write direct for full details and prices to



THE KRAMER CO., Manufacturers, **Paxton, Ill.**

JOHN DEERE PLOW CO., Ltd., Winnipeg

Exclusive Selling Agents for Manitoba

TUDHOPE-ANDERSON CO., Winnipeg

Selling Agents for Saskatchewan and Alberta

These, of course, must be deducted from the total revenue before any attempt at apportionment is made.

Business men are generally fair providing the farmer plays the game likewise. The implement dealer is in business to stay and this business depends entirely upon the farmers paying patronage. He must meet his obligations when they come due with the jobbers and manufacturers, and of course if the farmer does not meet his payments the dealer cannot meet his. The margin of profit to the dealer, with competition as keen as it is at present, is not very large so that prospects will take care of only a very small amount of bad debts. However, if every farmer who does business with a particular dealer, and who are not able to meet their obligations would go to that particular dealer with a full, true, and complete statement of just what they are able to do for him it would enable that dealer to make arrangements with the jobbers and manufacturers that would prove mutually satisfactory.

This is a matter which should not be left go until the last minute. If the dealer is banking upon payments in full, until such time as he must pay his debts, he has no time to make other arrangements. If a farmer will go to a dealer a month or two before his note falls due it is safe to say that in nine cases out of ten that he can make for better arrangements than if he goes to him on the last day of grace.

Think this matter over and anticipate your ability to pay sufficiently far ahead, so that you will not be squeezed into a corner at the last moment. You will find that nearly every one will be willing to co-operate with you in your difficulties in so far as they are able and you will save yourself much worry and trouble.

II.

I have before me a piece of cotton canvas, three by four feet in size, tacked to a wooden frame, writes Charles A. Green.

This canvas in its present condition is worth but a few cents. The question is how valuable can this piece of cloth be made by the right man who will give it careful and considerate attention and manipulation?

There are many men who with brushes and paints may paint a picture on this canvas which would increase its value \$10. There are other artists who could make a picture on the canvas worth \$1,000. There are a few men living who could make this piece of common cloth worth \$50,000 by painting thereon a master figure showing grain in the soft and fertile soil, as did that great painter Millet in "The Sower," or a field in which are grazing sheep and cattle as did Anton Mauve, or as in "The Horse Fair," by Rosa Bonheur.

This brings to my mind the question, What can you make of your farm, or your city or village lot?

There are men who, living on your fertile acres, may barely secure enough profit each year to keep himself and his family clothed and fed. There are other men of large ability who could manage your farm and lay by each year a clear profit of \$100.

There are other men who could secure a profit of \$1,000 from your farm each year. There are other men of still larger capacity who could secure a profit of \$10,000 from your farm.

I ask you to consider your farm, which you love so well, simply as a sheet of canvas cloth of small value, and you the artist who is to manipulate that canvas, applying to it certain things with such rare skill as to make it of great value.

You should not be satisfied to make that canvas worth \$10 by inferior work, or \$50 by a little better work, or \$100 by giving your work more thought and power. No, you should aim to make that canvas worth \$50,000 and nothing less. By this high aim you will not only secure a large reward in money, but you will attain the greater good which is the making of yourself a bigger and greater man.

III.

Nearly every farmer is after cash and the cash crops is something that very naturally appeals to him. In discussing this I believe there are two very necessary things to consider.

First. It is essential that annually the results should show a fair profit for the capital invested, and a reasonable compensation for the time and labor expended in operating the work of the farm.

In the second place. It is no less essential that to farm successfully the fertility of the soil must be maintained, as soil fertility is the absolute support of successful farming, and should not be reduced as in the case of exclusive grain or cash crop growing and these sold off from the farm. All our soils are exhaustible and in general are steadily decreasing in fertility. In fact this situation, to build up and maintain the fertility our soil is the most important problem that confronts the farmer.

Hence the most important of our economic problems and should be given our most serious attention.

A permanent system of farming should be established and practiced on every farm, such as a proper crop rotation, joined with live stock, husbandry as plant food cannot be indefinitely maintained without proper crop rotation and the liberal application of stable manure.

If the products grown upon the farm are all fed to stock upon the farm and the animals are provided with absorbent bedding, such as straw and refuse cut corn fodder, so that all liquid excrement is also saved, 75 per cent of the manurial value contained in the feed may be returned to the land in the form of manure.

THE successful management of a modern farm depends largely upon the efficiency of the equipment with which the work is performed. The equipment of the average farm can be divided into about three more or less distinct classes, as follows: First, and most important, are the buildings, fences, implements, machinery, wagons, and all appliances used in the more important farming operations; second, utensils and machinery used in connection with the dairy, garden tools, butchering outfit, and the numerous small things for general use about the place; third, the tools, materials, and facilities for keeping the first two classes of equipment in repair and in good working order. It is with the last class that this paper has to deal, the object being to assist the farmer in the selection of a suitable tool outfit, to suggest a line of supplies that are most commonly required for making repairs, and to give hints regarding the proper care and uses of tools.

In order to secure the greatest efficiency, all implements and machinery should be properly housed when not in actual service, so as to be in good working condition when required for use. Alterations and repairs on buildings and fences are required from time to time to accommodate them to changed conditions and to protect the crops. Farm machinery and equipment generally are subject to wear and breakage, and constant attention to repairs is necessary. The extent to which the repair work should be done on the farm will depend entirely upon local circumstances. If there is a well-equipped shop near-by where the repair work can be done by a trained mechanic without loss of time it may be best to carry the greater part of such work to the shop; but if the shop is at a distance, is poorly equipped, or, as is often the case, the mechanic in charge is incapable of turning out good work, it will then be a saving to perform the work at home. Besides, there is a large amount of repair work that can not be carried to a shop and must be done on the farm if it is done at all.

THE IMPORTANCE OF MAKING REPAIRS PROMPTLY.

Breakdowns are most frequent during the busy season, and much valuable time may be lost in going to some distant shop for repairs or in waiting until a new part of some machine or implement can be secured. In many cases an accident to one of the farm implements will cause the loss of not only a portion of the crop but also the time of a number of farm hands until repairs can be made and work resumed. Permanent repairs can frequently be made at once, and under most circumstances temporary repairs, at least, can be made, provided the necessary tools and supplies are at hand.

REPAIR OF FARM EQUIPMENT

—By E. F. W.—

THE ECONOMY OF MAKING REPAIRS ON THE FARM.

The question as to how far to undertake to do repair work on the farm will depend considerably upon the personality of the farmer himself and his capability to handle tools and execute the work. The regular work of the farm should be the primary consideration, and any repair or construction work that will cause the neglect of crops should not be undertaken. By the aid of a little training, together with the necessary tools and supplies, the farmer can repair all ordinary injuries to the farm equipment; and as a rule he can do this in a shorter time than would be required to go to a distant shop. If it were not for the economy of time, repairs made in a regular shop and by a trained mechanic would generally be found more satisfactory than those made at home, but the saving in both time and expense renders the repair outfit an important adjunct to the farm equipment.

THE TIME FOR MAKING REPAIRS.

Much of the loss and annoyance from breakage may be avoided by carefully inspecting and mending weak parts of the farm equipment before the rush of the season's work begins. The proper time for making such repairs as may be anticipated is during the winter months and at times when the regular farm work is not pressing. As the season advances the implements that will be required for the next farming operations should be gotten out, gone over, and given any attention required to make them ready for immediate use. If the farm machinery is not properly housed through the winter or during other periods of disuse, then it is all the more important that it should be given a careful overhauling. After inspecting an implement, tightening bolts, strengthening weak parts, and renewing broken pieces, any necessary painting should be done. Frequent applications of dark red metallic paint, consisting either of red lead or Venetian red and raw linseed oil, not only improve the appearance of many of the farm implements but add greatly to their lasting qualities. This is an age when appearances count for much, and a farmer's standing in the community is frequently governed by the appearance of his farm equipment. The man who spends his spare moments in the repair of fences and gates and in maintaining a neat appearance of the entire farm will easily be a leader among his neighbors.

THE EDUCATIONAL VALUE OF THE USE OF TOOLS.

The use of tools is of great value as an educational feature, especially

when the work is carefully performed. The boys on the farm should be encouraged in the use of tools, but should be held responsible both for the care of the tools and the character of the work performed with them. The tool outfit of the farm is of special service on stormy days and will aid greatly in keeping the boys employed and contented to remain at home.

Before beginning any piece of work, a definite plan should be worked out in detail, and if it requires the assembling of several parts each piece should be sketched on paper or on a board, so that when finished a close fitting of parts will be assured. It may be well to add a word of caution regarding the improper use of tools, for constant tinkering will work more harm than good. If a bolt is tight, that is sufficient, and an extra turn with the wrench may strip the threads and cause trouble. The taking apart of machinery should be avoided, except in case where it is absolutely necessary to do so. The reaper and mower and other machines of this class are securely put together at the factory, and if the parts are removed it is difficult to restore them to their proper adjustments.

It is doubtful whether horse-shoeing, wheelwright work, and repair work which requires special machinery can be economically performed on the farm, except where the farming operations are sufficiently extensive to justify the establishment of a shop and the employment of a mechanic.

TOOLS ADAPTED TO REPAIR WORK ON THE FARM.

The selection of the tool outfit will depend upon the scope and character of the work to be performed.

On most farms there is a deficiency of suitable repair tools and supplies, and an increased investment along this line is strongly recommended. Some farmers, however, need to be cautioned against hasty, indiscriminate purchases. A small, well selected outfit, used to the best advantage and well cared for, will prove more satisfactory than a large miscellaneous assortment improperly kept and used.

In this bulletin no attempt is made to determine the extent of the repair outfit which the individual farmer should purchase or the amount and scope of the work he should undertake. The problem is one for each farmer to solve, as he alone is familiar with all the conditions. The aim here is to furnish information which will be useful to farmers of all classes in selecting repair outfits, whether they are large or small, leaving each farmer to decide the extent to which he should purchase and use the tools and supplies listed.

In nearly all localities most of the tools may be purchased from the local hardware dealer. In most cases he can supply what is needed, and if he does not keep the required tools in stock he can very easily procure them from his jobber. Combination outfits are not the best to buy as they are made up for a price and usually contain a lot of cheap tools. A number of tools and appliances described herein are not ordinarily found in regular stores, and these can be made either by a local mechanic or on the farm.

Under most circumstances it will pay to secure tools of good quality, although fine exterior finish is not essential. Tools of very inferior quality are offered at low prices, but they invariably prove a disappointment to the purchaser. The name of the manufacturer is a sufficient guaranty of the quality of many tools, and the purchaser is advised to secure only those that are sold under a guaranty from either the manufacturer or the dealer. When contemplating the purchase of a collection of tools, make a careful study to see just what ones are needed, then purchase all at one time, and a liberal discount can generally be secured.

For the convenience of intending purchasers in making up a set of tools, lists with descriptions of those most commonly required on the farm are here given; also suggestive combinations varying in prices from \$2.50 to \$25. In describing the tools, they have been divided into classes, including wood-working iron working, miscellaneous; and general-purpose tools, and special conveniences for repair work. In making up the lower priced combinations, preference is given to the tools required for the more simple operations and having a broad range of utility.

WOOD - WORKING TOOLS.

In the case of certain tools more than one shape or style is offered by dealers. In a few cases a practical type of tool is better adapted to use on the farm than others, and these differences are mentioned in connection with the following list.

Ax.—An ax is perhaps one of the first tools required upon a farm. The ax probably belongs to the regular farm equipment, but inasmuch as an ax which is used for general purposes on the farm is rarely in condition for use in making repairs, it is recommended that at least two axes be on hand, one to keep in first-class condition and to be used for repair and construction work alone. Axes are of various grades and range in price from 75 cents to \$1.50. Axes also vary in weight between 2 and 5 pounds, 4¼ or 4½ pounds being a good size for general use. It always pays to secure a good ax and a handle made of hickory is to be preferred to the cheaper machine-made ones.

(To be continued next month.)

NEW CENTURY GRAIN THRESHER

What you actually find in the New Century

Principles of construction correct.

Separating actually done at cylinder.

Straw racks that shake the straw, not the machine.

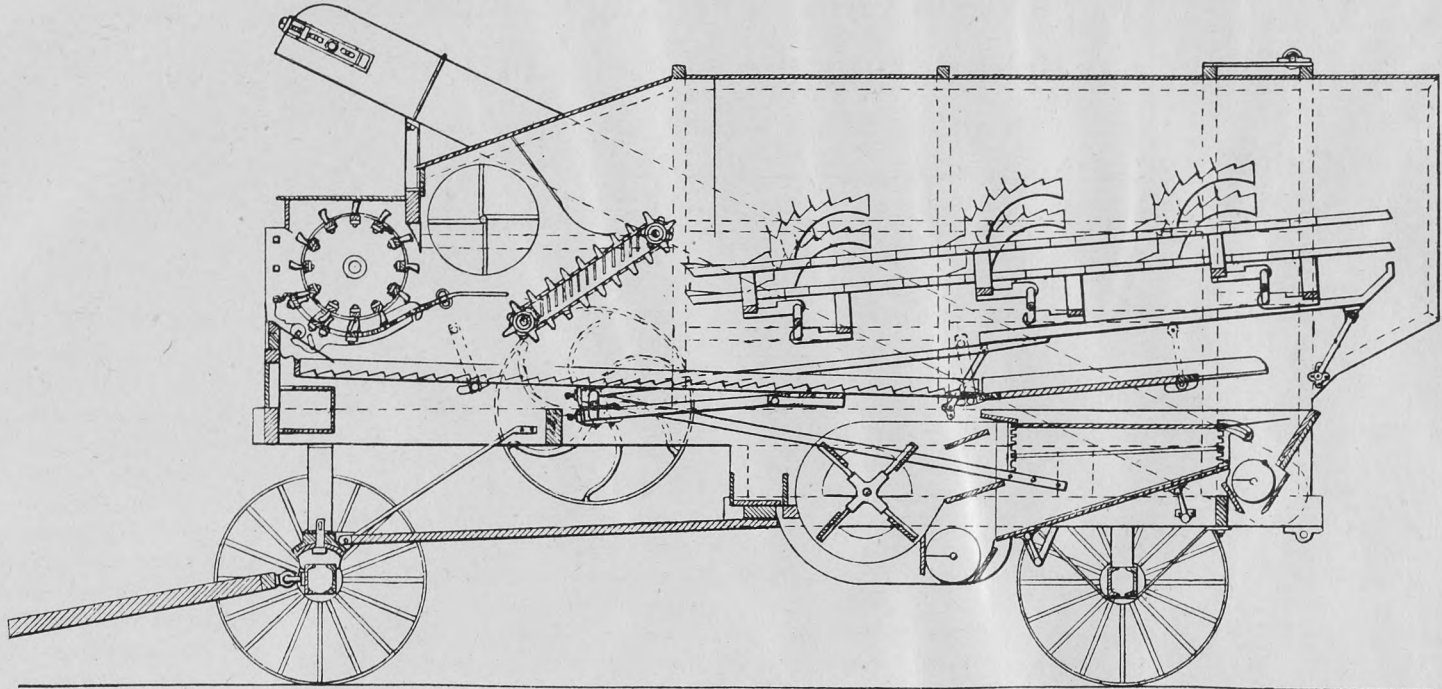
Straw racks that work all the time—not only one way.

A separator not clumsily built but rigidly braced.

The grain separator most desirable when gasoline power is used.

Ask any operator who uses gasoline engines.

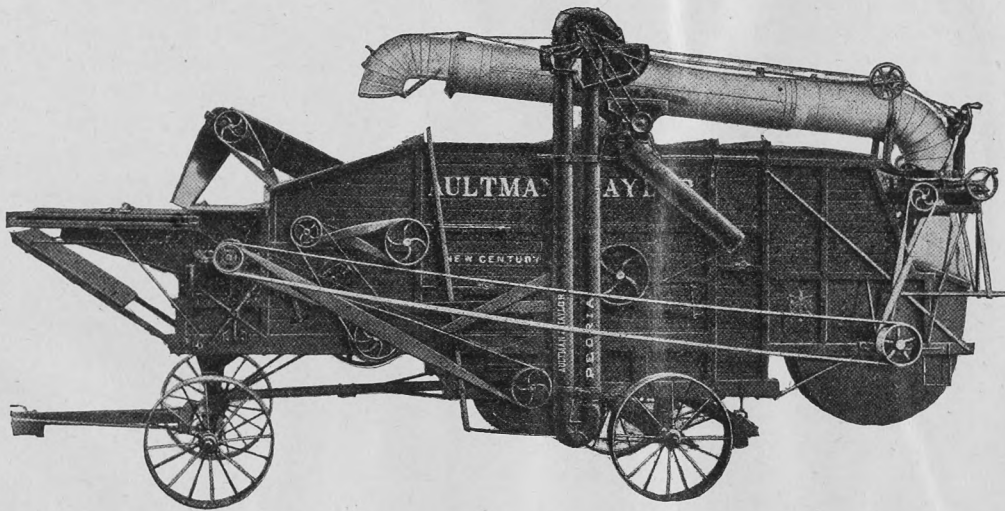
The separator most desirable when steam power is used because less power is required to operate the machine. Hence a saving of both fuel and water.



Built in sizes from 20 inch to 42 inch cylinders.

The NEW CENTURY, 27 inch cylinder by 42 inch separation with feeder, blower and weigher, is acknowledged to be the most successful grain thresher ever operated on the Canadian field. The weight of the machine is not excessive. When you buy a thresher, you do not want a structural steel bridge, but a machine—every pound of which gives a good account of itself in actual service. The NEW CENTURY is everything we claim for it. Our claims are based on actual facts, and results of tests and experiences.

NEW
CENTURY
GRAIN
THRESHER



NEW
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OUR AGENTS IN CANADA:

ANY INTERNATIONAL HARVESTER COMPANY GENERAL AGENT
MR. J. TAIT HUNTER, CALGARY, ALBERTA, CANADA

Ask any of the above agencies for catalogs, or the Home Office and Factory:

The Aultman & Taylor Machinery Company
MANSFIELD OHIO, U. S. A.

At Boissevain, July 8th, 1909.

Only eight farms were entered in this competition, while three times that many farms in the district are well worthy to compete for the prize. The judges express themselves as exceedingly well pleased with the farms visited.

The field crops are in excellent condition and free from noxious weeds. Boissevain is indeed to be congratulated on the productiveness of its surrounding country and the thrift and prosperity of its farmers. The President of the Agricultural Society met the judges at the train with a handsome automobile, which made the travelling from farm to farm very enjoyable indeed, as the roads are in excellent condition.

Very little criticism can be offered of the character of the farming at Boissevain. Good seed is being sown, and the latest and most improved machinery employed in cultivation, etc. One improvement which will be effected in that locality and one which will mean a great deal to them in keeping their land clean and in a high state of fertility, is the seeding down of part of their land to timothy and clover instead of summer-fallowing much. Mr. Hutchinson has one field seeded down to timothy and clover. Mr. Willson has half an acre of clover and Mr. Musgrove has a little piece of alfalfa, and beyond this there is little cultivated hay grown.

The farms were judged under the following heads:

1.—The general appearance of the farm to the traveller as he passes along the road, 50 points.

2.—The farmstead, including the house and surroundings, lawns, fences and garden, the location, convenience and state of repair of the outbuildings, and the condition of the farmyard, with its provision for protection from winds and snowdrifts; the water supply, etc., 100 points.

3.—The farm crops, the suitability to the district, kinds of crops grown, freedom from weeds, and rotation followed, 250 points.

4.—Live stock: kinds, condition, breeding, and numbers, 200 points.

5.—The condition of the farm machinery and provision made for repairing in emergencies, 150 points.

6.—The evidence of good farm management as seen in the permanency of labor; size and arrangement of fields; facilities for marketing products, and system of farm accounts, 100 points, making a total of 1,000 points.

The results of this competition as given out by the judges, Mr. J. J. Ring, of Crystal City, and Professor G. A. Sproule, of the Agricultural College, are as follows:

1st, W. Willson 802 points
2nd, E. Chambers 721 points
3rd, S. B. Oak, 693 points
4th, C. C. Musgrove 691 points
5th, C. Robertson 673 points
6th, E. B. Taylor 653 points
7th, J. Hutchinson 631 points
8th, J. Tyreman 602 points



Reports on Good Farming Competitions held during the Summer of 1909

As reported by The Manitoba Agricultural College.

There are five prizes in this competition: \$30, \$25, \$20, \$15, \$10.

Good Farming Competition at St. Pierre

July 23rd, 1909.

The results of the first Good Farming Competition are herewith given out. Out of the many good farms in the locality only seven were entered in the contest for Farm Improvement. The crops are looking well considering the dry weather which has prevailed in the district, thus proving the skill of the farmer in preparing the soil. More breaking than usual is being done this season, there being four steam plows at work in the immediate vicinity of St. Pierre, all doing excellent work in preparing the soil to receive next year's crop.

The judges were met at the train, and received the most courteous treatment on the entire trip. On Thursday evening, the President of the Agricultural Society and the competitors gave a banquet, which was highly enjoyed by the judges, everyone spent a pleasant evening.

While some little timothy and clover is sown, much more could be grown profitably in a crop rotation which would aid in Controlling the noxious weeds to a great extent and in keeping up the fertility of the soil. Among the other crops grown, Mr. Desjardins makes a specialty of potato growing, for which the soil on his farm is particularly adapted, and Mr. Prefontaine has a field of Siberian Millet, which looks very promising.

The farms were judged on the usual basis, and the results are as follows:

Felix Delonquin, first, 657 points out of a possible 1000.

Chas. Dandenault, second, 629 points out of a possible 1,000.

A. Prefontaine, third, 624 points out of a possible 1,000.

Chas. Desjardins, fourth, 623 points out of a possible 1,000.

E. W. Cook, fifth, 576 points out of a possible 1,000.

Andre Nault, sixth, 354 points out of a possible 1,000.

P. L'heureux, seventh, 225 points out of a possible 1,000.

Good Farming Competition at Gladstone

July 23rd, 1909.

The work of judging the Good Farming Competition at Gladstone has just been completed, and give the best farms in order of merit are as follows: J. J. Stewart, 1st, 807 points out of a possible 1,000; Milne Brothers, 2nd, 799 points; A. H. Rogers, 3rd, 780 points; David Paterson, 4th, 730 points; David Smith, 5th, 675 points. The score was exceedingly close, so that it was only after very carefully considering every department of the farm and comparing again and again the relative value of the work being done that the judges were agreed to place the farms in the above order. These five farms should compare very favorably with the best farms in any other part of the Province. None of them contain less than 480 acres, are well fenced and possess splendid modern buildings. The buildings, in all cases, are well protected with shelter belts, and suitably located, four of them being on the banks of the White Mud River, which is well wooded with oak, elm and poplar. Every farm possessed a good farmer's vegetable and fruit garden, the best one according to the judges being on the farm of Mr. Rogers. He has all kinds of vegetables, besides strawberries, raspberries, red, yellow and black, three varieties of currants, gooseberries, plums and crab apples in abundance. The gardens of Messrs Rogers, Stewart, Milne and Paterson are deserving of very special mention. Mr. Stewart sold last year out of his garden 41 10-quart pails of berries and had besides enough for home use. Mr. Stewart is growing registered wheat and hand selecting every year. He has this year a beautiful piece of hand-selected wheat. He sells nearly all his barley for seed, and his 180 acre field of barley looks well. The Milne Bros. are strong in home attractions, and have an up-to-date work-shop where they do all their own work in wood, iron and leather. Mr. Smith has a good herd of Jerseys. Mr. Patterson is doing excellent work and is getting the

rough spots cleaned up and will soon have a very convenient arrangement of fields. His score was brought down on account of his having so few stock. None of these farmers have begun as yet to grow clover or timothy. Mr. Smith has considerable seeded down to rye grass. Mr. Rogers has a small field of brome grass, while Mr. Smith has about 15 acres of field corn.

The judges are loud in their appreciation of the kindness of Mr. W. Williams, of Williams Bros., implements and hardware, of Gladstone, who spent two days in taking the judges from farm to farm in his auto car. Mr. Williams is President of the Agricultural Society, and is certainly the right man for the position. Mr. Stephen Benson of Neepawa, and Professor G. A. Sproule, of the College, were the judges.

Good Farming Competition at Minnedosa

July 26th, 1909.

Judging in the Minnedosa Good Farming Competition has been completed. The judges found the crops in good condition, being particularly free from weeds. In this district there are many homes having beautiful natural locations, but as yet little has been done in the way of ornamentation. Comparatively few trees have been planted, and good gardens are scarce. Large numbers of excellent horses were found, but in most cases cattle, sheep and hogs were altogether too few in number for a district possessing such excellent advantages for stock raising.

Grain growing has been the chief aim of the Minnedosa farmers, but many have expressed a desire to improve their buildings and the equipment of their homes in general. This district will, no doubt, become famous for the growing of grasses and clovers which heretofore have received little attention.

The judges at this competition were: Mr. J. J. Ring, of Crystal City, and Mr. Stephen Benson, of Neepawa.

Good Farming Competition at Miami

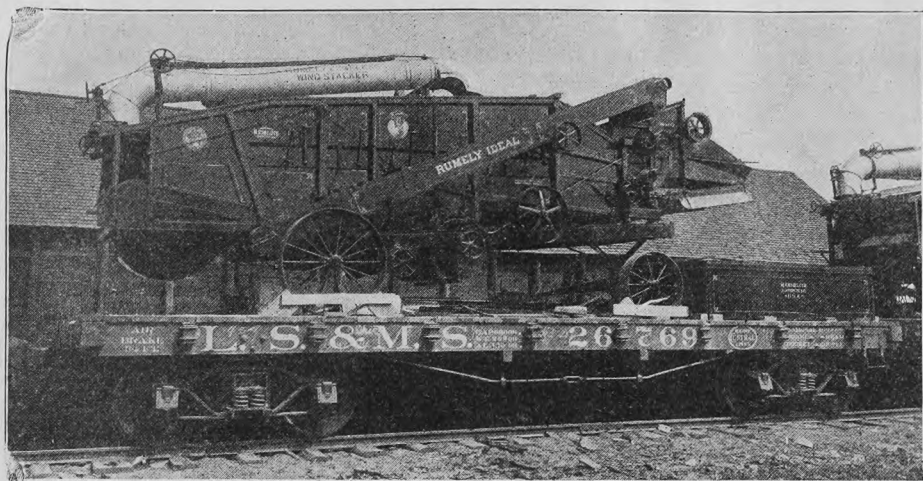
July 27th, 1909.

This competition proved to be one of the best in the Province. Five good farms were entered to compete for the generous prizes donated by the Miami Agricultural Society. As this is only the third year the Society has been in existence, much credit is due to the Secretary and the Directors for their enterprise. Before the good Farming Competitions were inaugurated last year it will be remembered that Miami had already arranged for a Good Farmstead Competition which they carried out last year. This year they fell in line with the Good Farming Competition, which includes field crops, live stock; and farm management.

The Great Length

OF

RUMELY SEPARATORS



THE aim of all Separator Manufacturers is to save the grain—save ALL of it and clean it thoroughly.

How near they come to attaining their aim is a question that permits of a great deal of argument and requires considerable proof to be convincing.

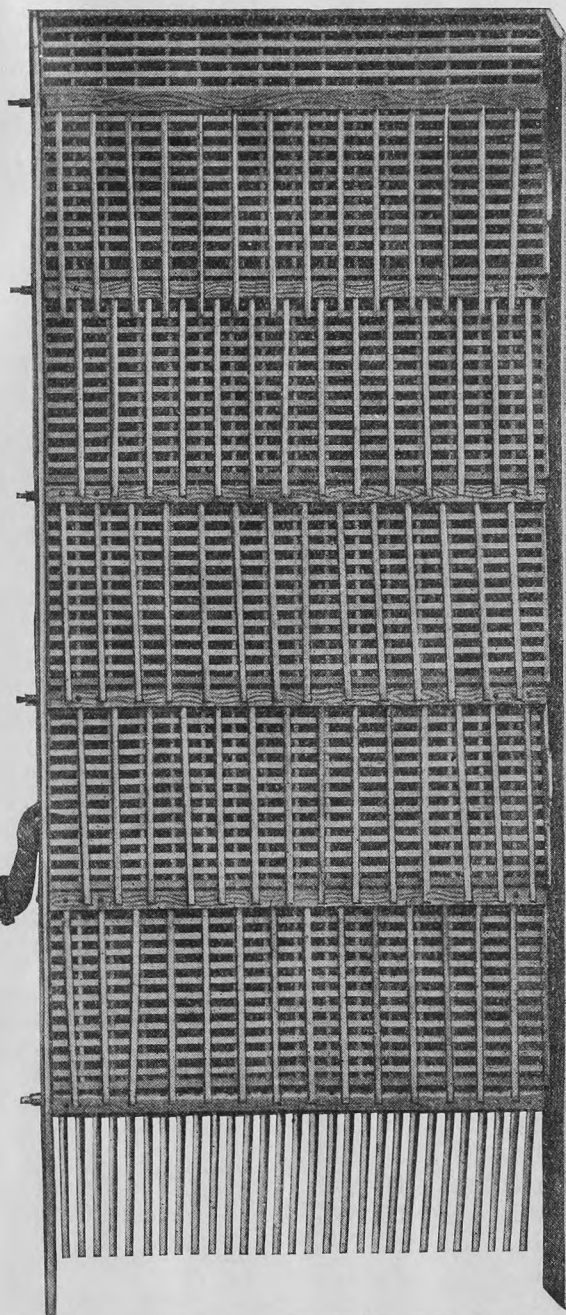
The construction at the cylinder in the RUMELY IDEAL SEPARATOR insures as great and as complete a separation at the cylinder as any manufacturer can claim.

Now—as to the balance of the grain, that which is not separated and threshed at the cylinder, but is left to be cared for in the rear of the machine—we show these pictures.

Many manufacturers load two Separators on a common 34-foot flat car. ALL RUMELY IDEAL SEPARATORS are constructed the same length regardless of the width of the machine—they are so long that there is only room enough for one RUMELY IDEAL SEPARATOR on a 34-foot flat car.

Now, notice the extreme length of the upper straw table which receives the straw at the point nearly five feet back of the cylinder shaft; this straw table with its six sets of lifting or agitating fingers keeps the straw in a turmoil as it passes along toward the rear of the machine.

It is this GREAT LENGTH in RUMELY IDEAL SEPARATORS that puts many dollars in the grain owner's pocket that would otherwise go into the stack and gives such great satisfaction to the operator's customers and makes threshing profitable for both the grain owner and the operator.



M. RUMELY Co.

LA PORTE INDIANA

Canadian Distributing House:
WINNIPEG MANITOBA

Branches:
Regina, Sask. Saskatoon, Sask. Calgary, Alta.



There were three prizes given this year, the first being a silver cup and \$30, the second \$20, and the third \$10. Mr. Thos. Garnett won first by obtaining a score of 812 points. Mr. John Pierce came second with 792 points, Mr. Thos. Reeves third with 686 points, Mr. Cyril Margetson fourth with 677 points, and Mr. Wilbur Smith fifth with 654 points. Messrs Garnett and Pierce have farms pretty hard to beat in a Good Farming Competition, as they are strong in almost every feature mentioned on the score card. They both have good buildings and healthy, clean crops. Mr. Pierce has a very fine poultry plant, but lacks a machinery shed. Mr. Reeves has an exceptionally good garden, and the heaviest headed field of wheat the judges have yet seen. Mr. Margetson's large brick residence situated on rising ground gives his place the best appearance, but he is weaker in other particulars, such as crop rotation, etc. Mr. Smith is a bachelor and has very modest buildings, but in general field crops he scored the highest. Mr. Scott, the energetic Secretary of the Society, accompanied the judges, Messrs S. R. Henderson of Kildonan and G. A. Sproule, of the College, round to the various farms competing.

Good Farming Competition at Emerson

July 27th, 1909.

The judges found the crops in this district and on the farms entered in the competition to be in a high state of cultivation, the best methods being adopted for the eradication of noxious weeds. With few exceptions the crops were excellent, the judges stating that never before had they seen finer standing crops of wheat, oats and barley.

The stock and implements were good and well adapted for their particular work, the horses being particularly fine and in very good condition. There were also some very good cattle of both beef and dairy breeds.

A competition was also held in the growing of wheat, there being ten entries. The judges state that the fields coming under their notice hardly could be surpassed, the straw being strong, the head large and filling out to the very tip. The competition was so close that the judges experienced considerable difficulty in placing the awards satisfactorily, the results being as follows:

	Possible Score	Actual Score
W. J. Ross . . .	100	90
Edward Davis . .	100	92½
A. Wilson	100	91
J. McCartney . . .	100	89½
J. W. E. Smith . .	100	89
E. Bookstead . . .	100	89
D. A. Fraser	100	89
R. Curran & Son . .	100	88
J. F. Dupuis . . .	100	87½
C. Baldwin	100	87

The judges were, Mr. J. J. Ring, of Crystal City, and Mr. S. R. Henderson, of Kildonan.

Viriden Good Farming Competition

July 29th, 1909.

The judging in the Good Farming Competition has been completed, and Mr. Turnbull, who lives 15 miles north of the town, wins the beautiful \$75 cup donated by the Society. Mr. Turnbull's score was 783 out of a possible 1,000 points. The second prize, a \$45 cup goes to Mr. A. H. Insley, who obtained 726 points. Messrs Will and George Golding's farm scored 693, the Golding Brothers thereby obtaining the third cup, valued at \$35. The remaining scores are as follows: Walter Hutton, 658, Colonel Ivens, 649, Peter McDonald, 640, John Haw, 626, F. Milburn, 599, Colonel Hosmer, 566, H. Ruddy, 511, and Levi Buker, 500. \$50 of the prize money is contributed by the Government and \$100 by the Viriden Agricultural Society. The cups are not to be competed for from year to year, but are the property of the winners this year.

The judges expressed themselves as being highly pleased with the way in which the competition was carried out, and the high standard of the farms competing. All the farms visited are comparatively free from noxious weeds, wild oats being the only one which is given any concern. On the farms visited these are being kept under control, while on the farms of some of the more careless the wild oat is a real menace. Bare summer fallowing is the rule in the Viriden district, some plowing twice and some only once. Colonel Ivens is the exception, and seeds down about 60 acres a year to timothy. On almost every farm inspected, some especially strong feature of good farming was in evidence—a good garden, an up-to-date farm work-shop, good outbuildings, or a nice farm home with modern conveniences, and sufficient help for the farmer's wife. It would be difficult to find anywhere in the province a better bunch of agricultural horses than the judges saw at the Golding Brothers' farm.

Comparatively little hay or anything in the nature of a leguminous crop is grown in the Viriden district; a few turnips or mangels, a little bit of clover here and there, or alfalfa, but very little. The wheat oats and barley however, look well, and pieces of wheat were seen that should yield 35 bushels to the acre, and the wheat crop looks as if it would average 20 bushels.

The judges were Mr. W. H. English of Harding, and Prof. G. A. Sproule, of the Agricultural College.

Good Farming Competition Held at Morris

July 30th, 1909.

The results of the Morris Good Farming Competition are now complete. Below are the individual scores of the contestants:

1st, George Clubb, 780 points out of a possible 1,000.

2nd, Walter Moore, 704 points out of a possible 1,000.

3rd, William Fraser, 691 points out of a possible 1,000.

4th, Peter Kastner, 667 points out of a possible 1,000.

5th, J. Fraser, 635 points out of a possible 1,000.

6th, Henry Snarr, 631 points out of a possible 1,000.

Good Farming Competition at Birtle

August 4th, 1909.

Of the thirteen farms entered in this contest four withdrew on account of the crops being mostly destroyed by hail. These were Messrs Paterson, Collis, Brayshay, and the Indian School. The farms of Messrs Brayshay and Collis were not visited, the latter having sent a letter to the effect that he had withdrawn. Mr. Paterson's farm was inspected for the purpose of seeing the house and outbuildings. These were of a very high character, and everything indicated careful farming. At the Indian School the promise of a fine crop was destroyed in a few moments, but we would like to compliment Mr. McLaren on the general condition of the school. The institution is well worthy of a better heating and ventilating system.

Among the remaining nine farms there was considerable variation, though in all there were evidences of thoroughness. Not enough attention is being paid to the betterment of the seed, and to crop rotation. Sow Thistle is not as yet in evidence here, and in general the crops were very free from weeds. The crops are very promising, and already some grain is being harvested. On only a few of the farms are sheep found, and the number of hogs is low.

Below are the scores of the various farms inspected:

Doig Bros., 1st, 650 points.
William Watt, 2nd, 595 points.
Peter Sutcliffe, 3rd, 576 points.
J. W. Tansley, 4th, 559 points.
George Seals, 5th, 547 points.
W. Gourlay, 6th, 499 points.
W. J. Bartley, 7th, 493 points.
Laidman & Son, 8th, 462 points.
J. M. R. Huggins, 9th, 461 points.

Good Farming Competitions at Hamiota and Harding

August 4th and 6th, 1909.

The judges sent out to judge in the above competitions report very favorably on the crop prospects. Ten very excellent farms were inspected, all of which were farms which showed unmistakable evidences of thorough cultivation and improved methods of farming. The crops in these districts are clean, a few wild oats being about the only noxious weed to be found. The Sow Thistle, which is giving so much trouble to the farmers in some parts of the province, has not reached this portion of the country yet. Indeed, the farmers say they would not know it if they did see it.

This suggests the need of education along this line. It is just possible that the sow Thistle will come in time, and it is important that the farmer should be able to detect it at once, and to know the best way of eradicating it. A few good specimens mounted in some public place might keep the matter before the farmers and help them in the identification of the weed. No damage has been done to the grain by hail, and the weather is ideal for ripening the grain.

The results of the scoring at Hamiota puts the five best farms in the following order: Mr. Irwin 1st, 728 points, Mr. G. S. Fraser 2nd, 720 points, Mr. Houck 3rd, 718 points, Mr. Strachan 4th, 696 points, and Mr. McConnell, 680. It will be noticed that the competition in Hamiota was very close.

At Harding the score was: W. H. English, 821, J. A. McKenzie, 718, Mr. McIntosh, 717, W. Hudson, 708, and A. Bond, 708. The score here was a little higher than at Hamiota. Special mention might be made regarding Mr. W. H. English's farm. He has a splendid crop in good condition, is growing pure bred seed, and besides has a variety of crops—wheat, oats, barley, pease, alfalfa, turnips, and sugar beet. His strongest feature, however, is his herd of pure bred Shorthorns. Mr. McIntosh has everyone beaten for home surroundings, but in nearly all of the farms there were strong features noticed, which were worthy of commendation.

Good Farming Competition at Meadowlea

August 12th, 1909.

The last of the Good Farming Competitions was judged last week, at Meadowlea, where seven farms were entered in the Good Farming Competition, and ten in the Standing Grain Contest. The municipality donated three prizes for the latter, while the Agricultural Society put up three for the whole farm competition.

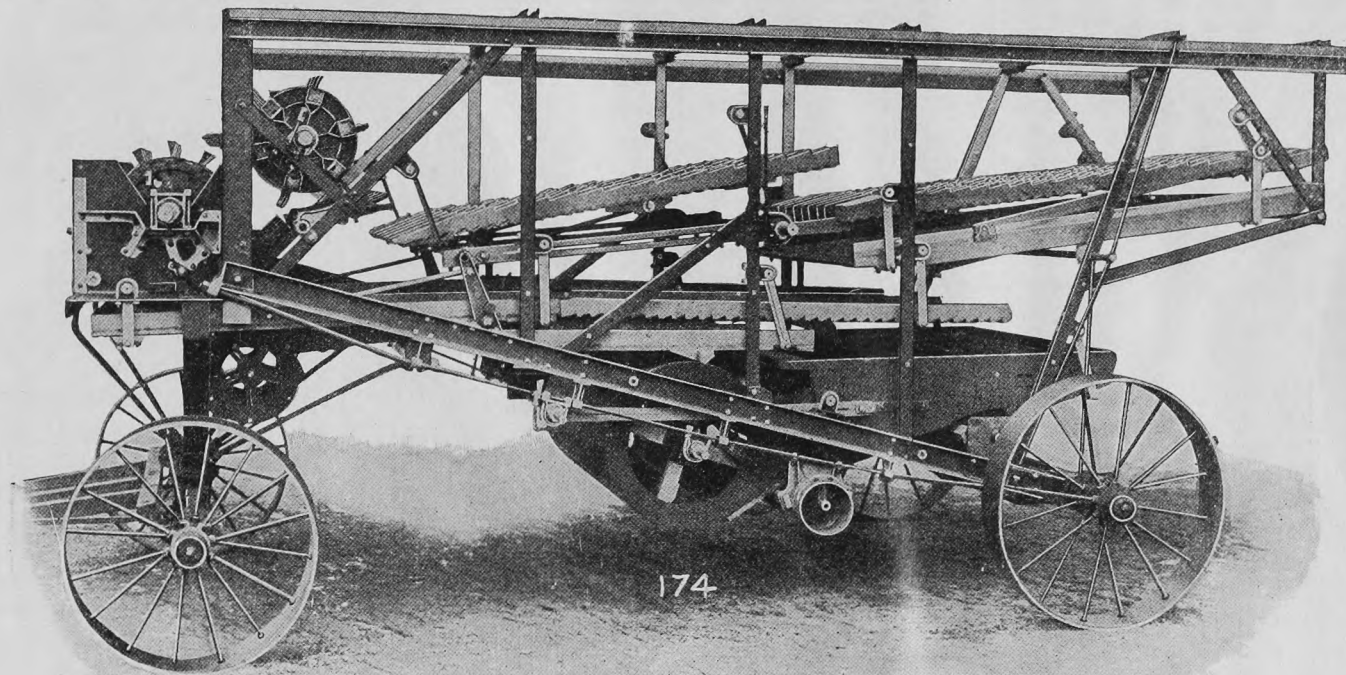
In the Standing Grain Contest, Geo. Tait of Hanlan, won first by obtaining a score of 85 points out of a possible 100; D. M. McIntyre second with 83 points, and D. Munroe 3rd with 80 points.

In the Good Farming Competition James Barr, of Hanlan was 1st, scoring 592 out of a possible 1,000; James Robertson of Marquette was second with a similar score; Thos. Scott third with 560, S. G. Sims fourth, 551; D. Munroe fifth, 547; A. E. Kelly sixth, 490; and A. Campbell seventh with 470 points.

As the Meadowlea Society was somewhat late in arranging for this Competition, the evidences of cleaning up around the buildings on a number of the farms was not so noticeable as in districts where they had made longer preparation. Meadowlea should be able to arrange for a very close competition another year.

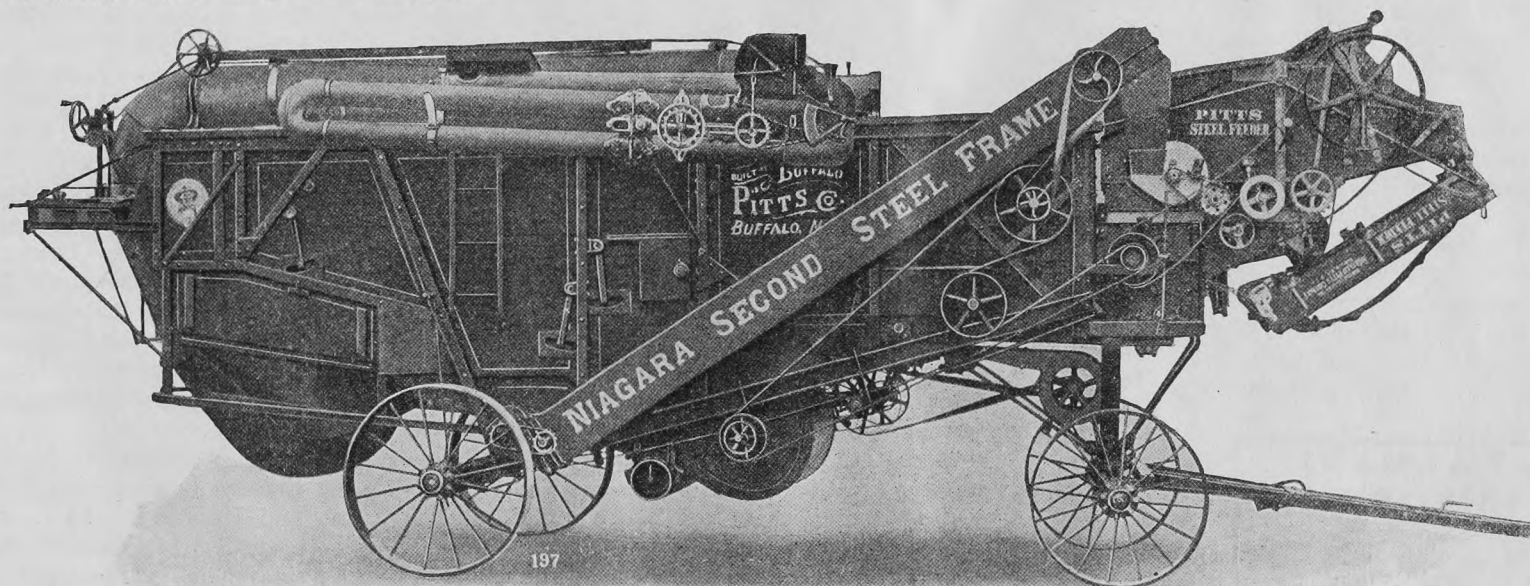
The Light Running Pitts

THE Niagara Second Steel Frame Thresher 30 x 50 will run as easily as any other 27 or 28 inch machine doing the same amount of work. The reason is, our solid steel front makes a support for the cylinder, which is as solid as a concrete foundation. The hangers are bolted directly to the steel frame. Our shaft boxes are Ring Oiling and Self-Aligning. Our frame will not warp, sag, or twist out of shape.



Points shown in the Interior View that cannot be found in any other Thresher.

The Niagara Second Steel Frame Thresher is the only thresher having a **front of solid steel** forming the cylinder side and corner support of frame.
 It is the only thresher having **all the bearings bolted solid** to a steel frame.
 It is the only thresher which **separates 95% of the grain** at the cylinder.
 It is the only thresher having a separating cylinder which deflects the threshed grain through the grates, separating it from the straw as soon as threshed.
 It is the only thresher having a lower bolting table extending over the shoe.
 It is the only thresher having auxiliary fans throwing a blast of wind through the lower bolting rack, separating the threshed grain from the chaff and rough cleaning it before it reaches the shoe.
 It is the only thresher having a direct driven shoe.



The Niagara Second Steel Frame Thresher with Gearless Wind Stacker, Pitts Steel Feeder and Weigher with Cross Conveyor, showing attachments folded for transportation. **THE ONLY PERFECT THRESHER**

Successful Threshermen and Farmers will investigate this machine before they purchase

Manufactured by

BUFFALO PITTS CO., BUFFALO, N.Y.

WINNIPEG
REGINA
CALGARY

International Harvester Company

SALES AGENTS FOR CANADA

BRANDON
SASKATOON
EDMONTON

The Lucky Guesser in "The Canadian Thresherman and Farmer" Wheat Guessing Contest Chooses a Rumely Separator.

Last month we made mention of our prize guessing contest, but as we only received the information as to who was the winner and as to the make of machine he chose a few days before our issue went to press, we were not able to go very much into detail. We thought, however, that our readers would be interested in seeing just what sort of a man won this machine, and we



H. J. Giesler, Brant, Alta., Winner of Separator in The Canadian Thresherman and Farmer's Prize Guessing Contest.

accordingly wrote Mr. Giesler for his photograph, which we herewith reproduce.

On August 9th Mr. Giesler wrote us in response to a letter that we wrote him on July 26th, in which he says:

"I have your letter of the 26th of

July advising me that you have purchased, ordered and shipped according to my instructions,

One 36 inch Rumely Separator

" Peerless Blower

" Perfection Weigher

" Ruth Feeder.

I beg to inform you that this machine has arrived and is in every particular just as you have represented. I wish to take this opportunity of complimenting you upon the perfectly fair and straightforward manner in which your wheat guessing contest was conducted.

I saw the announcement of your guessing contest in your paper, made my guess, sent it in according to your instructions and have now been awarded the prize, which has been received, and your paper has done all it promised.

I have been a subscriber to "The Canadian Thresherman and Farmer" for one and a half years and

during that time have found it has been of great assistance to me in my tasks upon the farm.

Again thanking you and wishing your paper every success, I remain,

Yours respectfully,

H. J. GIESLER."

Brant, Alta.

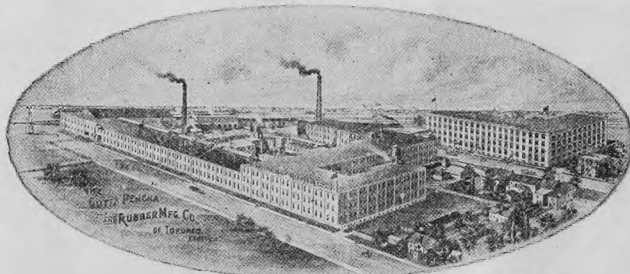
Mr. Giesler certainly received a very handsome prize for the mere expenditure of 50c., and while we would very much like to have seen everyone get a prize, that of course was impossible.

We will, however, have some contests on in the very near future, and we would ask that our readers watch for these contests. One of the great things in subscribing through a contest of this kind is to get in early and not wait until the last minute. You may be just as near the mark as someone else, but a month to six weeks delay on your part in sending in your subscription may be the means of throwing you out. It costs you the same one time as another; consequently we would say as a parting shot, when another guessing contest appears in "The Canadian Thresherman and Farmer," let everybody get into the game just as quickly as possible.

The New Building of the Winnipeg Rubber Co.

There is no better indication of the growth and enterprise of any city than the class and size of its buildings. This is not only indicative of the size of the city itself, but also shows that there is a large and growing country tributary to this city.

The wholesale buildings of Winnipeg are a source of wonder and sur-



Factory of the Gutta Percha and Rubber Manufacturing Co., Toronto, Ontario.

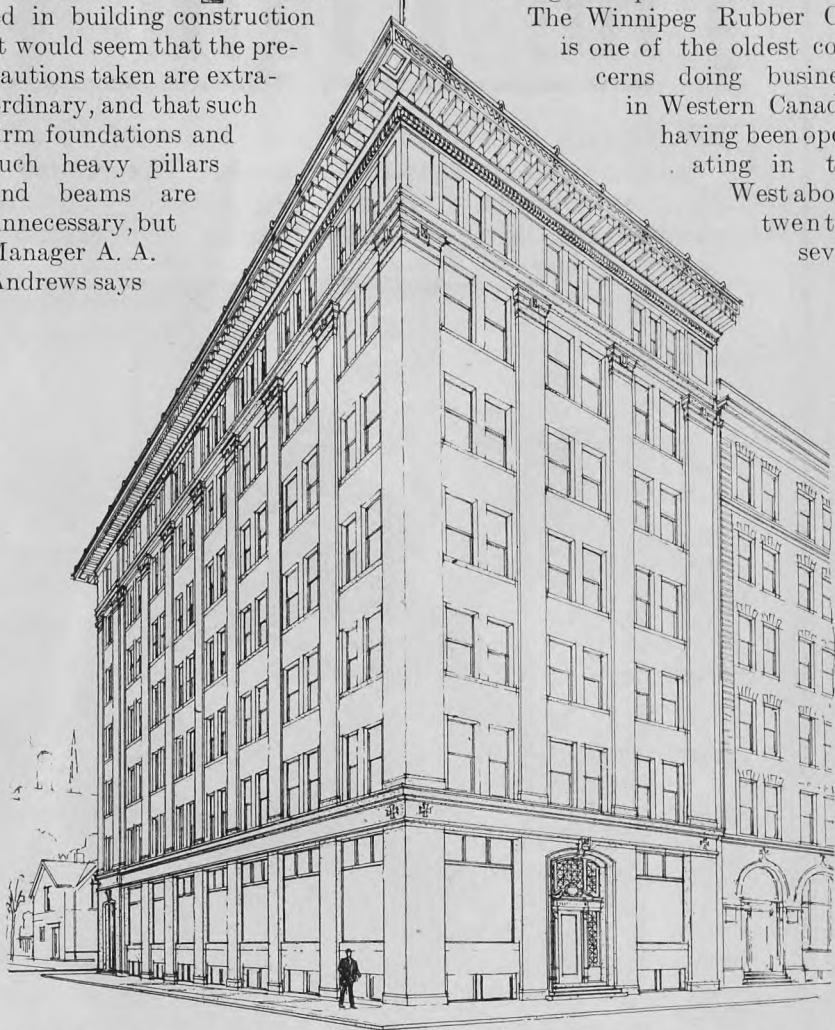
prise to the first-time visitor, or we may say they are a source of surprise to he who comes to the city at intervals of two or three years.

One of the latest additions to Winnipeg's wholesale district in the way of a building is that of the Winnipeg Rubber Co., the architect's sketch of which appears on this page. This structure is situated at the corner of King and McDermott streets, and occupies a space of 50x120, and when completed will be seven stories in height. This building is designed for and will be one of the best examples of modern fire-proof construction in the entire city, in fact, there will be nothing like it. A visit to the building at the present time, while it is in course

of construction, will show that the utmost care and thoroughness is being exercised from the ground up. To the observer not skilled in building construction it would seem that the precautions taken are extraordinary, and that such firm foundations and such heavy pillars and beams are unnecessary, but Manager A. A. Andrews says

building will be equipped with both a freight and passenger elevator and each floor will be provided with a large fire proof vault.

The Winnipeg Rubber Co. is one of the oldest concerns doing business in Western Canada, having been operating in the West about twenty-seven



New Offices and Warerooms of the Winnipeg Rubber Co., corner King and McDermott Sts., Winnipeg

no chances are being taken on not having the kind of building they started out to build, viz: one that is absolutely fire-proof and one that will be assured of carrying itself for all time to come.

It will be of red brick construction with white stone trimmings, and will be built upon lines that are the best that the architect can devise.

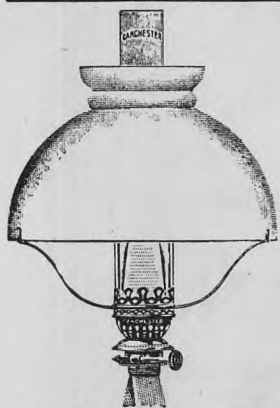
The ground floor will contain the offices of the Winnipeg Rubber Co., and these will be arranged in a most up-to-date manner. Even the floors of the offices, and in fact, all the floors will be of concrete. There will not be a stick of timber used in the entire building. The door frames and window frames will all be of metal and the windows themselves will be of wired glass. The

years, during which time the business has been under the supervision of the present president of the company, Mr. A. A. Andrews. At first it was only a small commission business, which developed through the various steps of commission business to a mere office and small warehouse, until about seventeen years ago the Company opened up in the quarters they now occupy at the corner of Princess and Notre Dame.

This Company's business has had a remarkable growth in Western Canada. It has been largely a matter of providing ware-room space in order to take care of the trade, and this was probably why the company saw fit to erect such large, commodious and up-to-date quarters.

The Winnipeg Rubber Co. handle the products of the Gutta Percha and Rubber Mfg. Co. of Toronto exclusively in Western Canada, besides handling several other well known lines of rubber goods.

Mr. FARMER! THIS IS FOR YOU!



Wouldn't you like to have a light in your home as good as any light in the city?

Our burner fits any ordinary lamp. It burns Air not Oil and is perfectly safe.

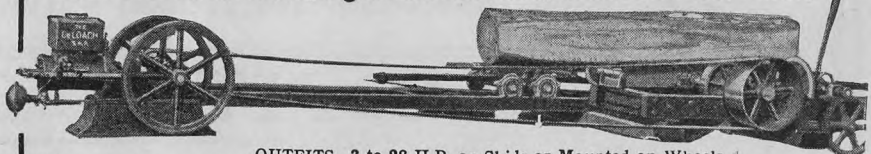
This light will cut your coal oil bill down to less than half.

We will ship this burner prepaid for \$2.75.

Full description sent on application.

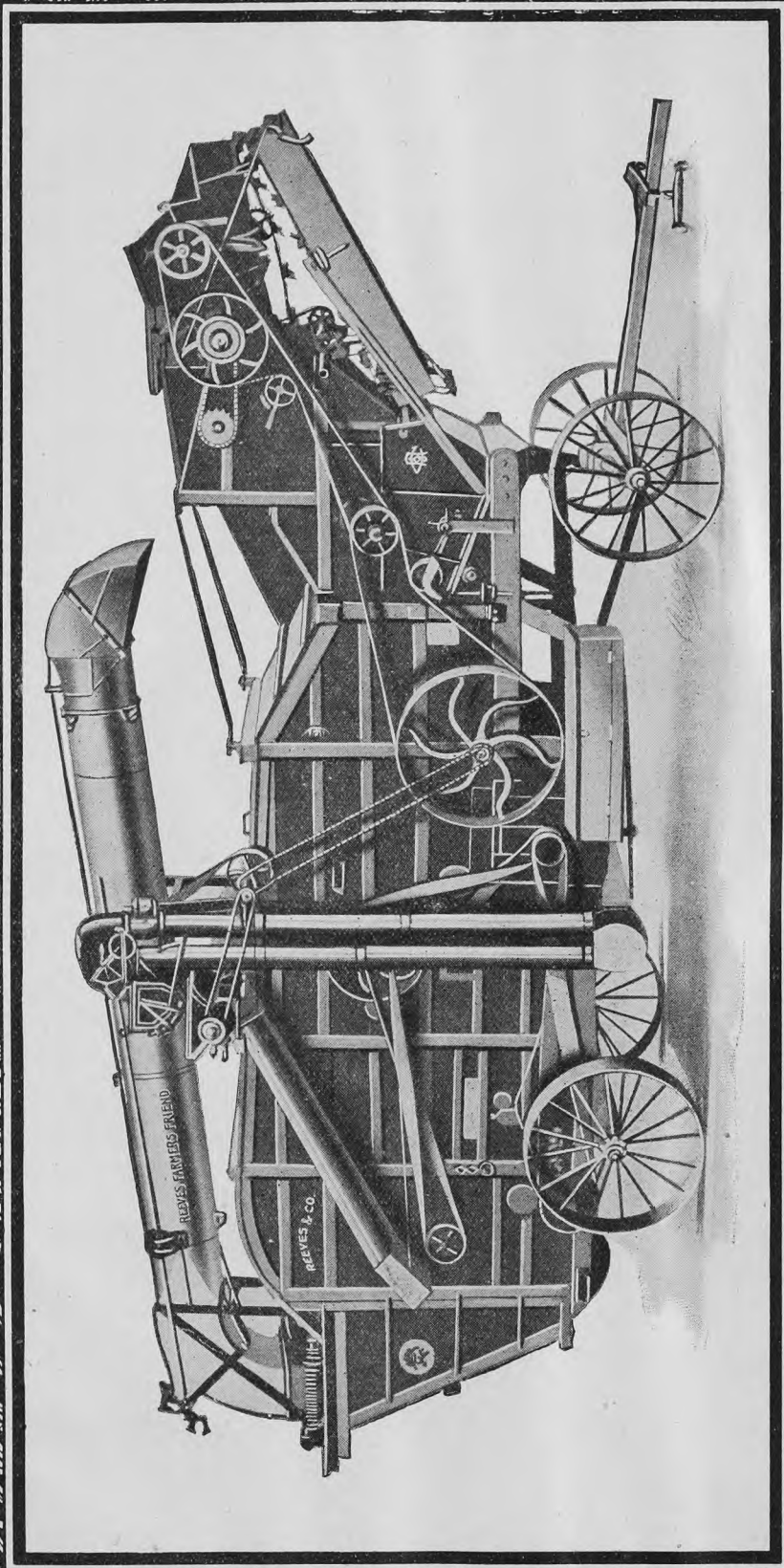
Incandescent Kerosene Light Co.
50 Princess St., Winnipeg

GOOD PROFIT FROM SMALL INVESTMENT
The DeLoach Gasoline Engine and DeLoach Farmer Saw Mill Outfit



OUTFITS. 3 to 28 H.P. on Skids or Mounted on Wheels. 1
We positively Guarantee a capacity of 500 feet of one inch boards from green oak logs per horse power per day of ten hours, and agree to replace any broken or badly worn parts that do not show extreme abuse or neglect for a period of one year from date of sale without charge.
Send for 254 page catalog of Saw Mills Shingle Mills, Planers, Gang Edgers, Lath Mills, Grinding Mills, Water Wheels, Engines, Boilers, and Gasoline Engines.
DE LOACH MILL MFG. CO. BOX 315, BRIDGEPORT, ALA.

THE REEVES COMPOUND MAMMOTH CYLINDER SEPARATOR.



In the purchase of a thresher no person can consult his own interest without giving careful consideration to the things that make for or against profit in the operation of such a machine. There is but little in a name! What counts is capability to do much work, to do good work, to satisfy not only the operator but the farmer as well, to do the work without costly delays from breakage - and to do this not merely for one season but for many. All of these things so much desired can be secured by the purchase of a Reeves Compound Mammoth Cylinder Separator. We can't say much here - we only want to call your attention to this money maker and if you will send for our catalog 33, will tell you all about it. Write to-day to

► **REEVES & CO., COLUMBUS, IND. U.S.A.** ◀

MOST all of us have seen formulas in text books for finding the safe working pressure in cylindrical boilers, and we may have wondered where they came from and how they were obtained. It may therefore interest some of the readers to work out one of these formulas from the beginning.

In the first place, we will consider a cylindrical boiler, made up without joints or seams, that is, with the joints welded together making a seamless tube, and with the heads welded in place also. If such a boiler should burst, it is easy to show that it would be more apt to split along the side than to blow the head off. We will suppose the whole boiler to be made of soft steel having a tensile strength of sixty thousand pounds per square inch. Which means that if we had a piece of such steel one inch square, it would require a force of sixty thousand pounds to pull it apart.

EXAMPLE.—Suppose we have a boiler 96 inches long, 30 inches in diameter and made of steel $\frac{1}{4}$ inch thick. If this boiler is under steam pressure, it is a well known fact

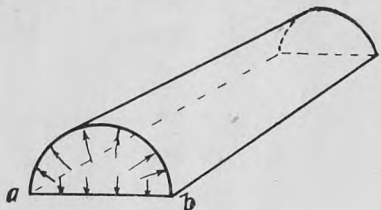


Fig. 63.

that the pressure acts in every direction from the center outward, and its tendency is to separate the shell into two parts. The total force tending to pull the two halves apart will be equal to the force exerted on the flat plate **a b** of figure 63, because the force acting upward on the curved upper half must exactly equal the pressure on the flat plate, otherwise the boiler would move, which of course it will not do. The total downward pressure on the flat plate can be easily figured. The area of this plate is $30 \times 96 = 2,880$ square inches. If the steam pressure is 100 pounds per square inch, the total pressure on the plate is $2,880 \times 100 = 288,000$ pounds. The metal holding this plate to the upper half is the metal along the angles **a** and **b**. In order for the plate to separate from the curved part the metal must tear apart at **a** and **b** throughout the entire length of the shell. The area of this metal is $2 \times \frac{1}{4} \times 96 = 48$ square inches.

Under the given conditions 48 square inches support 288,000 pounds consequently each square inch is subject to $288,000 \div 48 = 6,000$ pounds per square inch, or just one-tenth of what it would require to tear the metal apart.

If each square inch of metal were subjected to 60,000 pounds the total force acting on the flat plate would be $60,000 \times 48 = 2,880,000$ pounds, and since the area of the



Practical Talks to Threshermen

Conducted by PROFESSOR P. S. ROSE

TALK NO. XXIV.

The Strength of Boilers.

plate is 2,880 square inches the pressure within the boiler to cause the rupture would be $2,880,000 \div 2,880 = 1,000$ pounds per square inch. We can now proceed to find a formula for finding the bursting pressure of any boiler.

Let $T = 60,000$.

P = bursting pressure.

D = diameter of boiler in inches.

Z = length of boiler in inches.

t = thickness of boiler plate in inches.

Then $P = 60,000 \times 2 \times t \times Z \div D$

But since the Z appears both in the numerator and in the denominator it cancels out and our formula reduces to a simpler form as follows :

$$P = 60,000 \times 2 \times t \div D$$

This, remember, represents the **bursting pressure**, theoretically, of a boiler without seams or joints. Since it is usual to put in a **factor of safety** to find the safe working pressure we will use the factor 5, or in other words, divide the result obtained from the above formula by 5. The result obtained in using the formula for example given was 1,000 pounds, which divided by 5 gives us 200 as the safe working pressure for a boiler without joints or seams.

Putting the factor in the formula, we have :

$$P = 60,000 \times 2 \times t \div 5 \times D$$

But boilers are riveted and if the side seams are double riveted, as is the usual case, the strength of the seam is only 70 per cent of the rest of the shell, so that the safe working pressure of the above boiler with a double riveted joint is 70 per cent of 200 or 140 pounds. Inserting this factor in the formula we have : The **safe working pressure** of a cylindrical boiler, having double riveted

side seams, is as follows :

$$P = 60,000 \times 2 \times t \times 70 \div 5 \times D \times 100$$

Assembling all the figures and putting them in the formula, we have :

$$60,000 \times 2 \times \frac{1}{4} \times 70 = 140 \text{ pounds, safe working pressure.}$$

If the boiler is 40 inches in diameter and the thickness of the plate is the same, the safe working pressure is :

$$60,000 \times 2 \times \frac{1}{4} \times 70 = 105 \text{ pounds.}$$

This shows that if we increase the diameter of the boiler it will not stand so much steam pressure, unless we increase the thickness of the boiler plate a corresponding amount. In other words, the larger the diameter of the boiler the weaker it is, with the same thickness of plate.

In the fore part of this lesson it was shown that, with 100 pounds pressure in the boiler, each square inch of metal along a side seam was subjected to a **stress** of 6,000 pounds. We will now consider the stress on a circumferential seam, that is, to prevent one of the heads from blowing out. The area of a 30-inch boiler head is $3.1416 \times 15 \times 15 = 706.86$ square inches. If the pressure is 100 pounds per square inch the total pressure on the head is $706.86 \times 100 = 70,686$ pounds. In order for the head to blow off it must tear the metal all around the boiler. The length of this strip of metal is equal to the circumference of the boiler, or $3.1416 \times 30 = 94.248$ inches. Its thickness is $\frac{1}{4}$ of an inch, and the area of the metal that must be ruptured is $94.248 \times \frac{1}{4} = 23.562$ square inches.

Dividing 70,686 by 23.562 we obtain the quotient 3,000 which

represents the stress on each square inch of metal on a transverse seam, but this is only one-half what it is along a side seam ; thus showing that a boiler is much more apt to fail by splitting along the side than it is to blow the end out. This also explains why side seams are double riveted and transverse seam single riveted.

Nothing has been said yet about the safe working pressure on flat plates, or on stay bolts and braces. These require separate treatment. The formulas deduced for the safe working pressure are only applicable to a cylindrical boiler shell with a double riveted side seam.

An Old New England Industry.

If long service has anything to do with good service, and it usually has, there is much to be said on behalf of the Plymouth Cordage Co. of Plymouth, Mass. For eighty-five years they have been manufacturing rope and twine on the original site of the historic Plymouth Ropewalk.

In a trade where so much depends in "knowing how," it is especially noteworthy that the management of this company has been always in the hands of men whose whole lives were spent in the cordage business. The present principals are sons, grandsons and grand-nephews of the earlier principals, and have themselves grown up in their own mills. Superintendents and foremen are in most cases the sons of former employees, now dead and gone, but who have left to their sons all the skill and expert knowledge which a lifetime had taught them. Even among the workmen there are many sons of former workmen, and many whose whole working lives have been devoted to making the Plymouth products better. Fifty workmen have been in these mills over thirty years. Thirty superintendents and overseers have been employed in these mills over twenty-five years.

In addition to fine grades of rope, this plant makes the famous "Plymouth" Binder Twine. In all farming sections Plymouth Twine is known for its excellence.

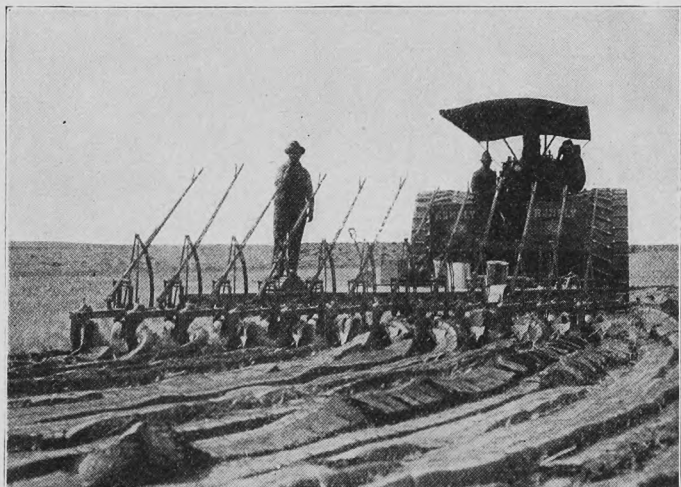


A Rumely 30 h.p. Plowing Engine pulling a 10 furrow Cockshutt Gang. Outfit of Younglove & Farmer, Rouleau, Man.

STEAM PLOWING IS A QUESTION

A Question of FUEL, WATER and POWER

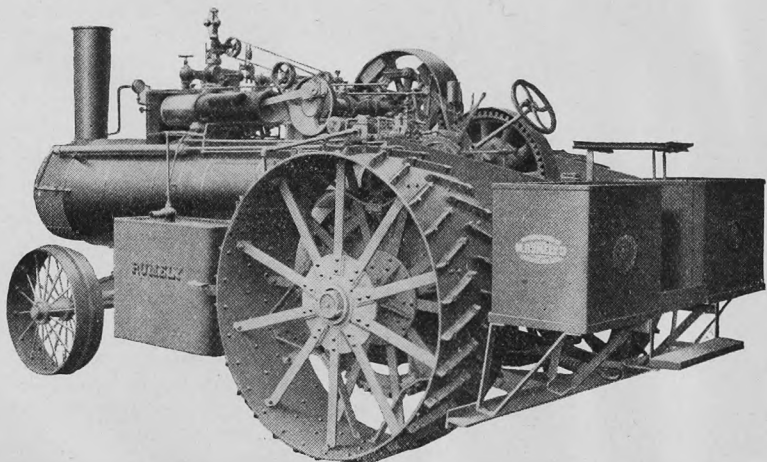
which boils down to simply a proposition of **Pull**—of producing with a minimum amount of fuel and water the **strongest, longest and smoothest** pull possible.



Rear View of Duffy Outfit.

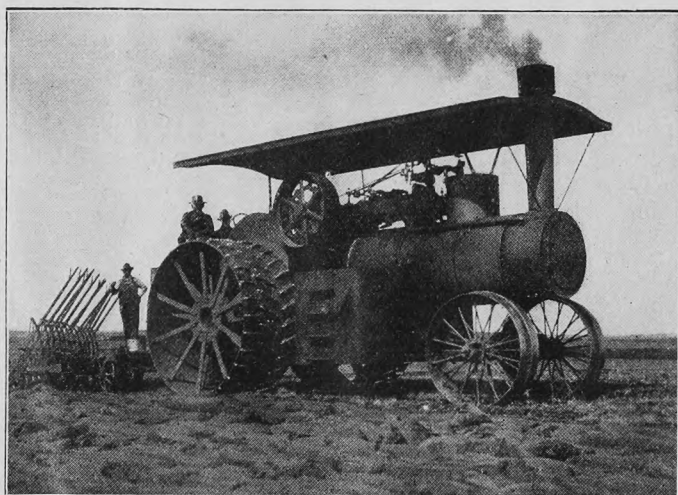
without any undue loss through friction. The traction wheels must grip the earth firmly and prevent loss usually incurred by slippage and sinking into the ground. Every inch of turn in the wheel must be changed into **pull**.

These points have all been given careful attention in the RUMELY Steam Plowing Engine, with the result that

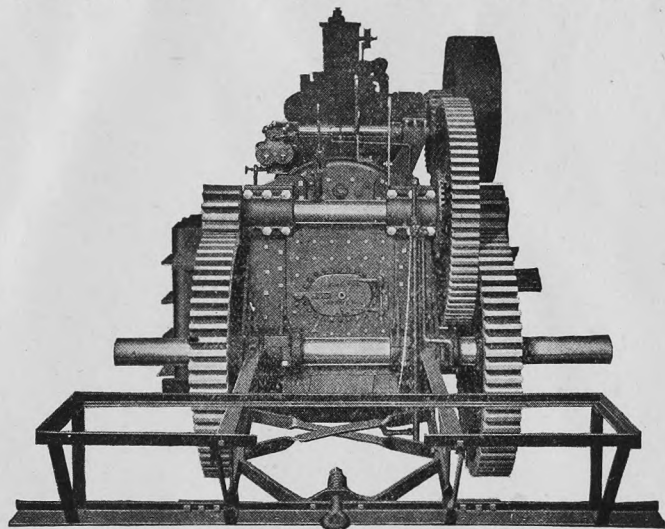


To accomplish this, every part of the engine must perform its particular duty with the least possible amount of friction and loss of power.

The fire box must generate a maximum amount of heat from the fuel. Circulation must be such as to minimize the loss of heat. The cylinder must utilize the expansive force of steam in its entirety as nearly as possible. The power must be transmitted from the crank shaft through the gearing to the drive wheels



Side View—36 h.p. Rumely Double Cylinder Universal Plowing Engine owned by Mr. A. Duffy, Lethbridge, Alta.



RUMELY ENGINES are
Better Savers
Better Steamers
and Stronger Pullers

than any Steam Plowing Engine on the market.

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The Thresherman's Question Drawer

Answers to Correspondents

A. R., Q. I bought a double LUMSDEN, cylinder simple engine this fall. I understood when I bought it that it had no dead center. I find that it has places where it will not start with the throttle wide open and no load. The agent who sold me the engine tells me I have to throw the reverse lever down toward the end of the quadrant to start it. Now, the engine will run hooked up in the notches toward the center of the quadrant, and sometimes it will start there. Why does it not start there every time? Surely there must be something wrong with the engine or it must have a dead center, although the catalog claims the engine has no dead center.

A. It is true that a double engine with its cranks set at 90° has no dead center, as only one crank can be on the dead point at a time. While one crank is on the center the other is in position to do business if steam is turned into the cylinder, but if the reverse lever is in the center notch it cannot start, and even if the reverse lever is thrown far ahead so that the valve cuts off the steam at one-half stroke, the engine cannot move when the cranks are set as mentioned in the foregoing. However, the engine will start with the valve gear set at one-half cut-off, providing the one crank is set, say at one-eighth or one-fourth stroke to begin with.

The correct way to start a double engine is to always have the reverse lever thrown well down to the end of the quadrant, and when the engine is started hook it up to the point at which you wish it to run. This is the way locomotives are started, and a double traction engine is built on the same general lines.

F. L., Q. I have a COMABERNETHY, pound engine which SASK. has a double oil pump one part of which supplies the high pressure and the other part supplies the low pressure cylinders. Both plungers of the pump are driven with one shaft, there being two eccentrics on the shaft. Now, the trouble is, both pumps do not deliver the same amount of oil, yet they should have the same capacity, as the plungers are the same diameter and have the same stroke. The pump has no valves in it, but two valves on the delivery pipe leading to the high pressure cylinder and one in the pipe leading to the low pressure cylinder. The plunger which delivers the oil to the high pressure cylinder gets the lesser amount of oil, and, in fact, to get a sufficient quantity to lubricate it properly, I have to run the pump so fast that the low pressure cylinder is flooded with oil, and in conse-

quence there is a waste of oil. I have changed the connections and valves of the pump so that the plunger which delivers oil to the low pressure cylinder was connected to the high pressure cylinder, thinking this would help, but the trouble was about the same, the low pressure cylinder got much more oil than the high pressure cylinder.

Now, how can I get the pump to deliver the same amount of oil to each cylinder? If the pump is tight, should the difference in pressure of the cylinders make so much difference in the quantity of oil pumped? I would be grateful for any help you can give me in this matter.

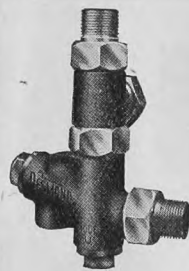
A. The plunger of your pump must leak. Leaky check valves would also cause this trouble, but as you changed the delivery pipes and also the check valves, the trouble seems to be in the plungers. Tight fitting plungers in the pump may help you, as the oil is solid enough to not be influenced so much by the difference in the pressure of the two cylinders. A better plan would be to have a separate pump for each cylinder. Then you could run each one the required speed to deliver the quantity of oil desired.

C. B., Q. I have an en-STONEWALL, gine, simple, with a MAN. 10x11 cylinder and it runs 240 revolutions. The boiler pressure is 135 lbs. to the square inch. It is supposed to be 25 h.p., but figuring according to my books, I always get it more than again as much and cannot see how in the world they figure. Please explain to me how to figure the horse power of an engine.

A. The 25 h.p. is nominal h.p. and your rule likely gives you the actual horse power which is about twice as much as the nominal horse power. The mean effective pressure on the piston which might be 50 or 60 lbs., in your case, multiplied by the area of the piston, by the stroke in feet, by two, by the revolutions per minute, and this divided by 33,000 will give the indicated horse power.

An indicator is necessary to arrive at the pressure and by the aid of a planimeter or by other means the mean effective pressure is obtained.

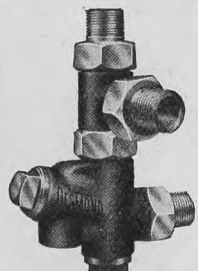
E. E. K., Q. Will you please BRANT, tell me what is wrong ALTA. with my steam gauge. I left the boiler on traction engine, let the water out, opened the hand hole above the water line and took the hand hole plate out at the bottom. In the morning the thermometer registered about 10 degrees



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are Getting Them

BETTER GET ON THE BAND-WAGON



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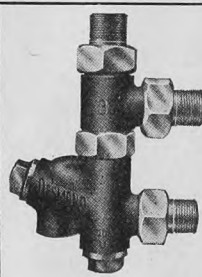
will fit your old connections (if they are for an upright Injector), and you can put any Model "U" on any side of boiler and bring your piping to it at any angle.

We do not have to make but one pattern. It is adjustable to all conditions.

A two-piece Body connected with a Union Nut does the trick.

We are now fitting them all with Drip-Cocks, at no extra charge.

Write us for the name of your nearest dealer.

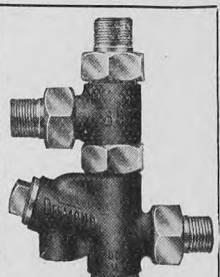


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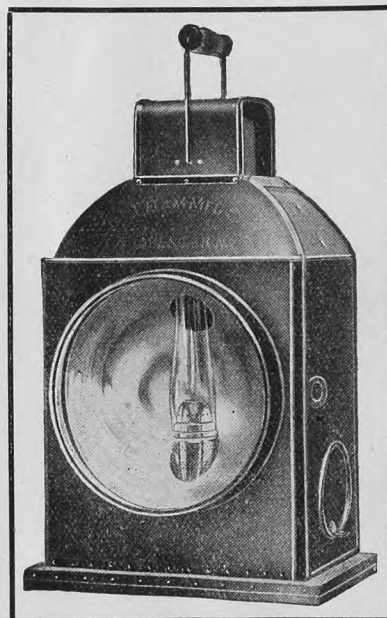
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Don't Forget That HEADLIGHT!

When you buy a headlight, see that it looks just like the illustration herewith, and see that the name C. T. HAM MFG. CO. appears on the front. Then you'll know that you are getting a headlight that will give satisfaction.



No doubt every thresherman has his outfit in shape and is prepared for a big season. Of all you do, don't forget your headlight; it is very necessary, and no outfit is complete without one. Threshermen who have used a good headlight can appreciate this fact. If you have never used a headlight, or have had experience and trouble with an unreliable headlight, it will pay you to try a HAM'S.

HAM'S headlight is made very strong, to stand the jolting of the engine, it has a regular locomotive headlight style of burner, it throws a powerful light, and as it will not blow out in the strongest winds or jar out on the roughest roads, you can always depend on it; therefore, you can work after dark if necessary, or move your outfit at night with perfect safety, which will save you enough time to pay for a half dozen headlights in one season.

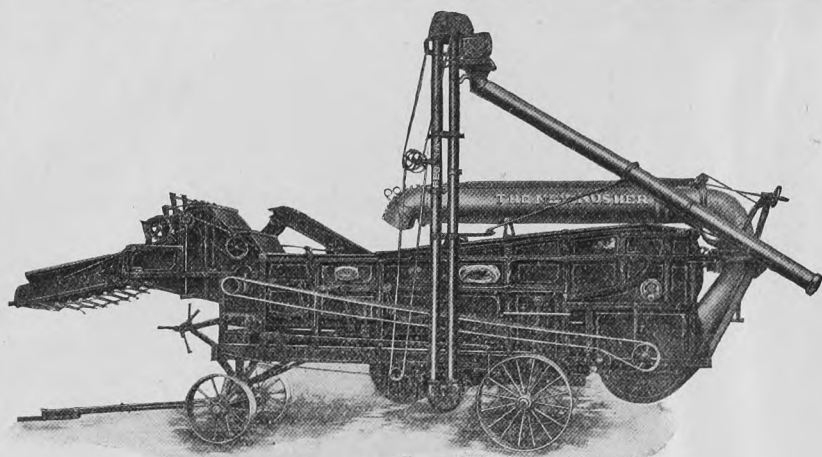
Remember! HAM'S Headlight is guaranteed to give satisfaction, that means quality. Therefore if you want the best, be sure and specify HAM'S and insist on getting it. If your dealer cannot supply you write to us.

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PROTECT OR INCREASE YOUR THRESHER RUN AND PROFITS BY REDUCING YOUR CUSTOMERS' LOSSES AND BY REDUCING YOUR OWN LOSSES AND EXPENSES



SHARP COMPETITION AND SHORT RUNS

Competition is such that to either protect or increase his business and earnings the good Thresherman deserves the best ways and means, and he needs the latest and best methods.

PRESENT METHODS, WAYS AND MEANS

You may answer: "My methods already include good service to my customers, or as small wastes of their fuel, their grain, and their time as can be expected—so far as I can see."

And, if you are a progressive thresherman, you will ask: "How can I do better for my customers and for myself?"

Haven't some of your good customers lost some grain by your use of teeth which were so worn that you failed to get all the grain out of the head? Or were

the teeth so worn that you failed to get all the grain out of the head? or were the teeth so worn that you increased the quantity of concave teeth, and so cut up the straw as to interfere with separation and cleaning?

Do you not use a set of common quality teeth through the season, and some teeth even longer? After some weeks use by you of common quality teeth, do not some of your customers get poorer work than they should have, because of the teeth wearing out of shape?

Haven't some of your customers' men lost considerable time waiting for you to fix some of the teeth or cylinder parts?

Haven't your customers furnished to you much more than 100 pounds of coal per hour?

FUTURE WAYS AND MEANS

Further in reply to that question—"How can I do better for my customers and myself?"—

There are now practicable ways and means by which you can reduce your customers' losses; by burning less of his fuel; by wasting less of his grain; and by losing less of his men's time in waiting for you to fix your machine—than has been necessary in the past.

You can protect and improve your reputation, your run and your earnings, by reducing losses. You can, this year, actually reduce those losses to least \$100.00 and it may be as much as \$400.00.

If you investigate thoroughly, you will believe in our ways and means for protecting or increasing your threshing business and your profits. Our "Book of Reasons" (1909 catalog) contains descriptions of those ways and means.

If you are a Thresherman, please read our 1909 catalog and "check up" our figures, and write to us telling wherein we agree and disagree. Before investing you money in another make of machinery, should you not, at least, write to us your doubts and thoroughly "thresh out" the question of Economy?

Your customers may not be complaining now, but they surely will complain before long if you continue using other than a modern and economical outfit—and you may not know of the dissatisfaction until after it is too late.

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above zero. The steam gauge registered sixty pounds. The gauge worked all right before that but not afterwards. The syphon is one that came with the engine, ell shaped and attached at the side of the dome. I tried a new syphon and gauge but soon wore the cogs out on the gauge. I have a 22-horse power plow engine with single cylinder..

A. It may be that the hand has slipped on the spindle, in which case the gauge can be mended by resetting the hand. This can sometimes be done by taking the hand off and setting it to zero. A better way is to put it under pressure on a reservoir or pipe to which a gauge that is known to be right is placed and testing it with the correct gauge. If the syphon failed to work and water was left in the gauge over night the temperature was low enough to freeze the water and crack the spring. In this case there is nothing to be done but get a new gauge. An ell shaped syphon is not a good form to use on a traction engine. There is a small brass syphon that screws onto the boiler just below the gauge that works well and does not vibrate when the engine is traveling over rough roads.

V. E. W. Q. I am in the ARCOLA, saw mill business SASK. and have trouble with the mandrel boxes heating.

Can you give me a remedy for the same and is graphite good?

A. It may be that the boxes are slightly out of line, or that they are roughened by heating. The best thing to do is to take the caps off the boxes and if any rough places are visible scrape the bearing and smooth the shafts. Then put the caps back in place and screw them down tight. If they bind the shaft a condition that can be determined by rotating the shaft in the boxes, shimming should be fitted until a proper fit has been made. If the boxes are out of line this condition will be shown by the condition of the bearing. The wear will be on only a few points. If this is the case the box must be realigned and the method for doing it will depend upon the construction of it. The writer has frequently realigned a box by fitting thin shimming under one end of it. Of course if the pillow block is a part of the main frame this method can not be employed.

Graphite is a very good thing to put in a box together with a little hard oil or grease, especially if it has become somewhat roughened.

D. A. W. Q. Is it better to let STETTLER a boiler stand dry ALTA. or with water when not in use?

(2) Will it harm a boiler to blow it out hot, or is it better to let it cool off first?

A. 1. Most authorities advise draining the boiler and leaving the hand holes plates out during the time that it is idle. Some advise draining it and drying it and then closing it up while it is idle. Sometimes a pan of dry charcoal is put inside to absorb whatever moisture may accumulate.

2. It will not harm the metal to blow the boiler out under a pressure of five or ten pounds, but it is not good practice because there will be enough heat left in the metal to bake whatever mud may be left in the boiler very hard and make it difficult to remove afterward.

C. L. H. Q. Will you tell me BOISSEVAIN, me what the actual MAN. horse power would be of a 10x15 double cylinder gasoline engine; also what size cylinder would be required in a steam engine to produce the same power?

A. In figuring the horse power of an engine it is necessary to know the speed at which it runs and as you did not give this I assumed that the piston traveled 600 feet per minute, or thereabouts, and that the engine made 220 r. p. m. I also assumed that it took an explosion every other revolution, which is the maximum number it could take, and further assumed that its efficiency is seventy-seven per cent. I also assumed that the engine used gasoline for fuel and

that the average pressure in the cylinder is 92 pounds per square inch. After making all of these assumptions it is easy to figure the horse power according to the following formula.

$$\text{Horse power} = \frac{2 \times P \times L \times A \times E}{33000}$$

In this formula P represents the average pressure on the piston in pounds per square inch; L, the length of the stroke in feet; A, the area of the piston in square inches; E, the number of explosions per minute; and 2 is the number of cylinders. Putting the numerical values in the place of the literal values of the formula, we have:

$$\text{H.P.} = \frac{2 \times 92 \times 15 \times 78.54 \times 77}{12 \times 33000} = 42.1.$$

Answer.

The necessary size of steam engine to yield the same power is hard to estimate without making another lot of assumptions; if we assume that the gauge pressure is 120 pounds per square inch and that the engine runs at 250 r. p. m. and use the same formula as we did for the gas engine, putting the number of revolutions per minute in place of the number of explosions, we will find that it will require about a 9x12 cylinder.

In all problems involving horse power of engines it is necessary to make a great many assumptions unless one can actually test the engine with an indicator.

TILLAGE of the soil is the first and most important factor throughout all Agricultural districts, for without proper tillage we can never expect to get an abundant crop. Tillage may be divided into preparation tillage or tillage which is done before the seed is sown, and maintenance tillage or tillage done to keep the soil in proper condition after the seed is sown. Tillage machinery is that class of farm implements which are used in carrying on either preparation or maintenance tillage. These implements may consist of the plow, harrow, cultivator, drill, roller, soil packer, manure spreader, etc. Before going into a discussion of these machines, however, we should first understand what are the principal objects of tillage. These may be enumerated as follows:—

1. To destroy and prevent the growth of weeds which would tend to rob the crops of food and moisture.
2. To add to the humus of the soil by covering beneath the surface to such a depth as not to hinder further cultivation, green crops and other vegetable matter.
3. To disturb insect enemies and bring them to the surface where they will be destroyed by birds and unfavorable weather.
4. To produce in a field a uniform texture to such a depth as will render the most plant food available.
5. To provide such a condition of the soil as to prevent excessive action of the rains by washing and the wind by drifting.
6. To modify the condition of the soil in such a way to regulate the amount of moisture retained and the temperature of the soil.
7. To loosen and stir the surface soil to such a depth as will make a suitable seed-bed and also leave the soil in such a condition as will enable the roots to penetrate it easily.

At the present time practically all of the various operations of tillage are carried on by the aid of machinery, and for this reason tillage machinery is of greatest importance in modern farming operations. Modern tillage machinery has not only increased the yield per acre but also enabled a larger area to be tilled with less labor. There are in each of these implements plenty of room for a good lengthy discussion; I will therefore generally describe the different kinds of harrows and their uses, and then go into the disk harrow a little more in detail.

After plowing the ground it is necessary to pulverize the soil very fine and to smooth it. The harrow is the implement used for this purpose, and it may be used also to cover seeds, to form a dust mulch for retaining moisture, and to kill weeds when they are beginning to grow. Harrows may be classified as follows:—

1. Smoothing or drag harrow.
2. Spring tooth harrow.

The Care and Operation of Tillage Machinery

By H. E. POTTER OF THE M. A. C.

We especially recommend this Article to our Readers.—EDI TOR.

3. Curved knife-tooth harrow or pulverizer.

4. Disk harrow.

The smoothing harrow is used on loose soils especially after the plow, to level the surface and pulverize the soil.

The spring tooth harrow can be used to an advantage on stony or rough ground as the teeth spring when they catch on any obstacle, and are released. It loosens the soil and is an excellent pulverizer.

The curved knife-tooth harrow though not used very extensively will crush clots and bring the soil into uniform structure very satisfactorily.

The disk harrow is the best of any yet devised for loosening and pulverizing the ground.

The disk is, perhaps, the most important of the harrows. On account of its rolling action it can be used on a wide variety of soils, therefore it should be in use on every farm. It can be used to an advantage in destroying weeds after they have grown beyond the control of the smoothing harrow. It does excellent work in reducing plowed ground which is inclined to be soddy, and is sometimes used to induce weed seeds to germinate before the land is plowed. Like most other implements the disk is made in different shapes to suit the work that is to be done. These are classed as follows:

1. The full-bladed disk harrow.
2. The cutaway disk harrow.
3. The spading harrow.
4. The orchard disk.

The full-bladed harrow may be used to good advantage as a pulverizer, and the blades are easily sharpened when dull either by grinding or turning to an edge.

The cutaway as may be judged by the name, has portions of the blade of the harrow notched out allowing the remaining portions to penetrate the ground to a greater depth. The entire surface is not pulverized so thoroughly as with the full bladed disk. The cutaway harrow seems to be especially adapted to work among stones and may be used to cultivate hay land.

The spading harrow works very much like the cutaway, the blades curve at the ends and form a sort of sprocket wheel with the cutting edges out. The blades of both these types of harrows are very much harder to sharpen than the full-bladed disk.

We need not here spend much time discussing the orchard disk, as it is not used to any great extent in this country. The disk gangs are fastened to a wide frame so that the small trees may pass

through between them, or so the disks will go in under the branches of the trees and cultivate near the trunks. Thus we see that after looking over the different disks carefully, the one best suited to the agriculturist is the full bladed disk.

The diameter of the disks has caused a great deal of discussion, but the one best suited to all kinds of soils is the medium sized disk. The sizes vary from twelve to twenty inches. If the disks are too small they are liable to sink into the centre bolt and necessarily draw harder, but the smaller the disk the less cutting surface, therefore they will go into hard land better and the draft will be lighter. The penetration of the disk blades into the ground is also determined by:—

1. The sharpness of the blades.
2. The weight of the harrow.
3. The angle of the gangs.
4. The curvature of the disk blades.
5. The line of draft.

The large disks have one great advantage that they will work over wet trashy ground where the small ones will clog up. The scrapers and frame are higher up out of the dirt, and the dirt and stubble gets in under the blades farther before they come onto it, while in the small ones they push it ahead more before they go over it and necessarily cause them to clog up more easily. The number of disk blades that are generally used is fourteen, seven in each gang, and it takes four horses to handle it satisfactorily in soft ground. The blades should be fastened together with a heavy bolt and lock nut on the outside of each gang so they could be easily tightened if they should shake loose. The inward throw disks have a tendency to pile the soil up a little in the middle, but if the field is to be disked twice the disks can be let overlap half-way and thus leave almost a level field. If the disk is an outward throw it should be provided with a spring tooth to stir up the narrow strip left between the gangs.

The first parts of a disk that are likely to wear out are the bearings. There are a great many styles of these on the market now, but they all seem to wear after a short time especially if the dirt is allowed to get in the oil cups and stop the oil from working down properly. Hard wood bearings seem to be as satisfactory as any, as they can be so easily replaced when worn out, but are not likely to last as long as chilled iron bearings. The construction of the bearings should be such as to exclude all dirt. A reliable means of oiling should be provided and it is well to have an oil pipe to

the bearings which extends above the weight pans and frame. The scrapers and cleaners to keep the discs clean are also an important feature to any harrow, especially in wet ground. These may be made stationary or so arranged as to be operated by the feet of the driver when needed. The stationary ones are not very satisfactory as they cause undue friction in soils when they are not needed. It is advisable to have good clearance between standards and disks and between weight boxes and disks. Good clearance will prevent clogging in wet and trashy ground. A little allowance can be made according to the curvature of the blades, for the more curve in the blades the farther the dirt will be thrown and the more pulverizing will be the effect, but without good clearance clogging up will prevail on account of the dirt being thrown into the scrapers.

Some disks are fitted out with only one lever while others have two levers, one for each gang. On good level ground the one lever disk will do as good work as the two lever, but for hillside work the two lever disk can be set at different angles, and thereby secure better work. It may also be used to advantage on land that is being disked twice by overlapping. The soil when disked once is not as firm as the undisked ground and may cause side draft with the single lever disk. In order to secure flexibility of the gangs it is essential to have spring pressure to keep the inside ends of the gangs down. There is a natural tendency for the gangs to rise in the centre. The gangs should be in no ways stationary but fixed so they will ride up or down on either the outside or inside according to the nature of the ground.

The eveners should be back as close to the disk as possible, and underneath the tongue so the weight of the tongue will be pulled up off the horses necks. Three horses are sometimes used with patent eveners to take off the side draft, but for the most perfect work four horses are better as the disk follows up straighter.

Tongueless disk harrows are now made with a truck under a stub tongue. These harrows no doubt make the work lighter for the horses but cannot be handled to as good an advantage as the harrows with a tongue in them.

Although a weight box does not need to be used very often if the pressure is regulated right, still it is advisable to have a good strong box on every harrow as it is very handy to carry an oil can, wrench, or anything else that may be needed along with the harrow. A disk mounted on wheels has been recently put on the market, but for rough or stony ground the disk without wheels works the best, and even in smooth ground the wheels are not

(Continued on page 64)

TWO GOLD MEDALS,

TWO SILVER MEDALS, ONE BRONZE MEDAL

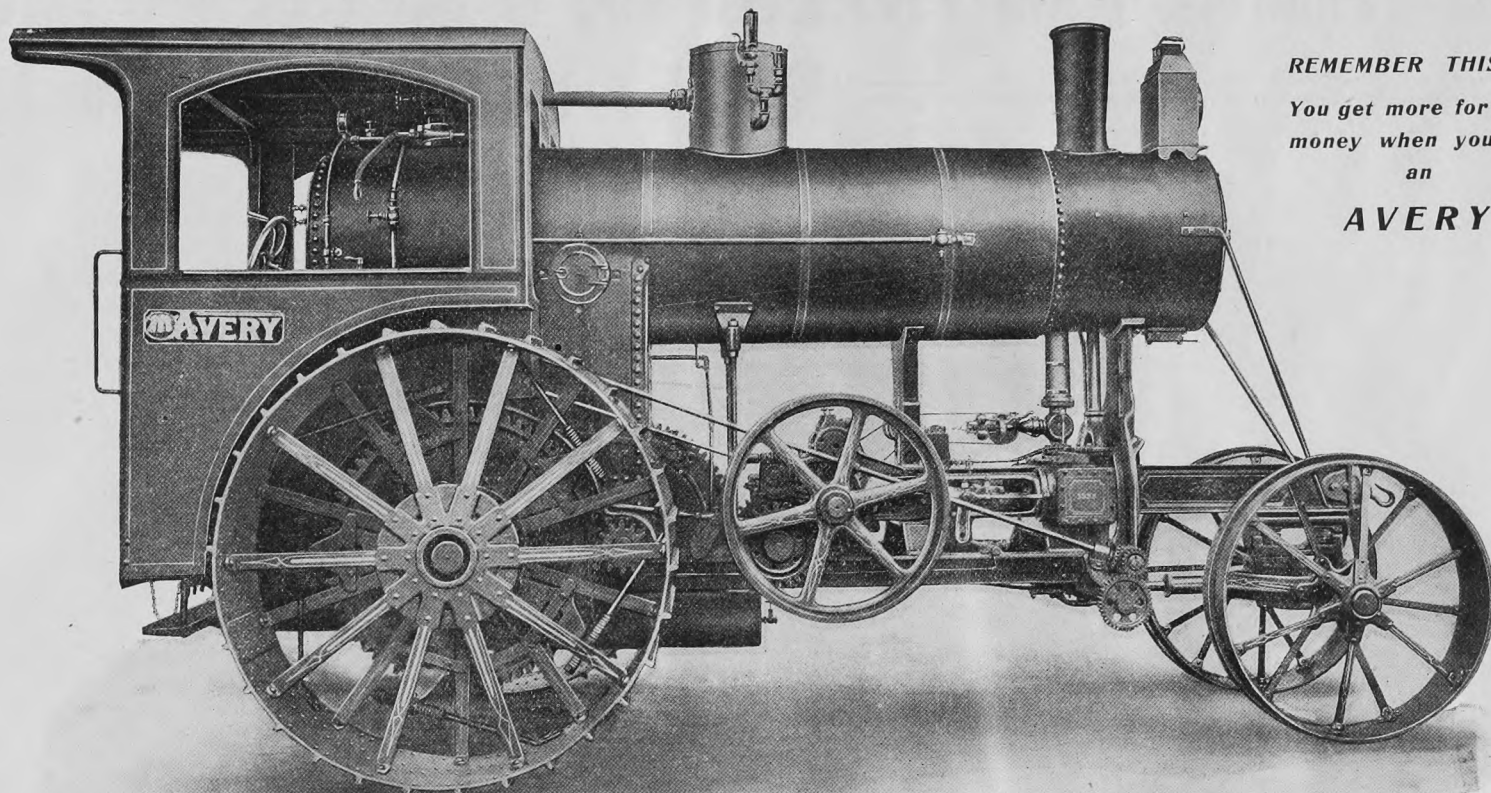
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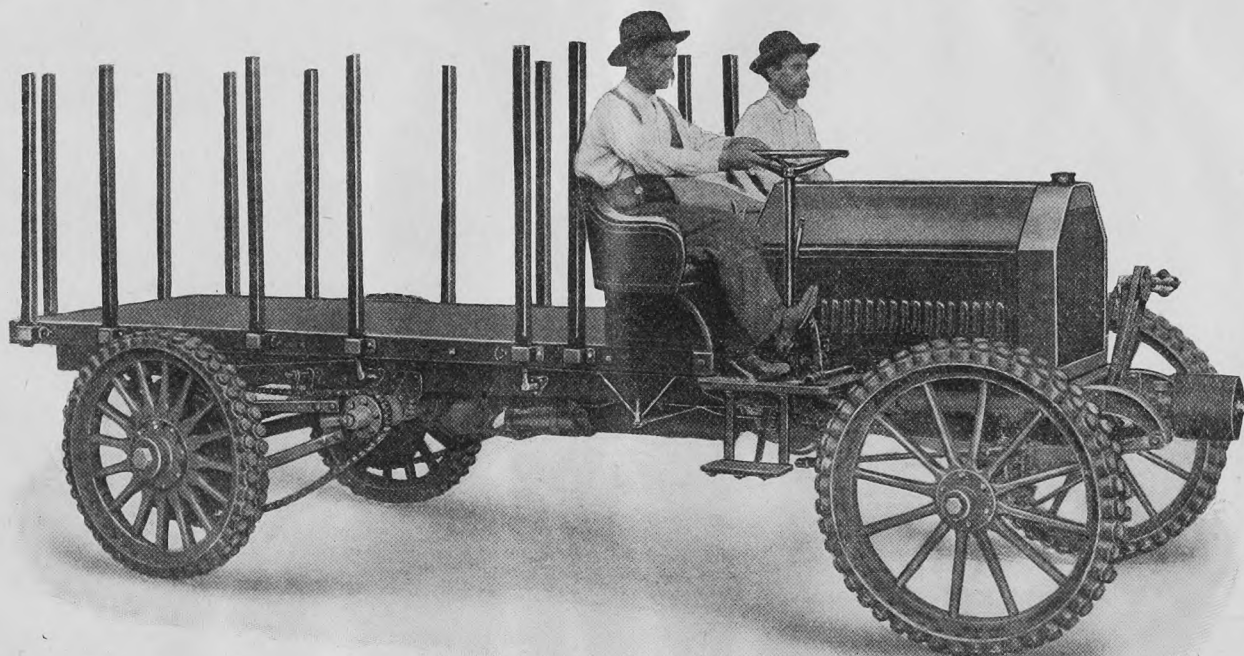
The Avery Tractor

There have been gasoline engines built that would pull plows and other machinery behind and drive belt power machines. There have also been a very few gasoline wagons built to carry loads on their own bodies, but these have been largely, if not entirely for city use only.

But before the Avery Tractor was built, there has been no machine built, designed particularly for farming purposes, that combined in one all three features of pulling plows and other machinery behind, driving threshing machines, hay balers and other machinery by belt power, and being also capable of hauling loads on its own body and making quick trips everywhere.

It's the only machine of its kind. It will take the place of several teams and wagons on a farm. It is a Big Expense and Time Saver.

We have issued a special catalog showing this Tractor doing a large number of different kinds of work. It has been tested out in actual work. It has proven a winner in recent Motor Contests. Don't turn the page until you write a postal or a letter asking about the Avery Farm Tractor.



Ask for a copy of the Avery Engine, Thresher and Steam Plow Catalog. Gives Detailed Description and Illustrations of Machinery; also Working Scenes.

Ask for a copy of the Avery Tractor Catalog. Shows illustrations of the Tractor doing a large number of different kinds of work and gives full information regarding its construction.

Write a postal or letter asking for either or both Catalogs. Get a Catalog whether you are in the market or not, and if in the market tell us what you want to buy.

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MONEY every day of your **RUN**

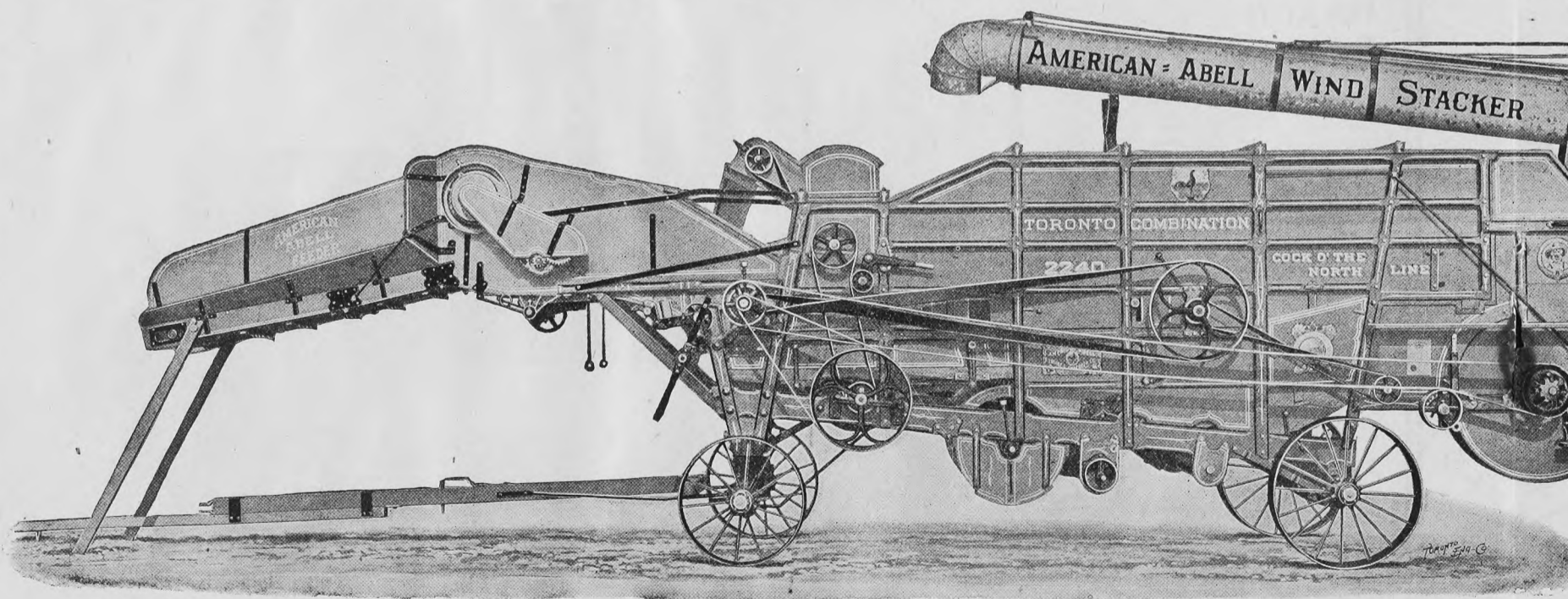
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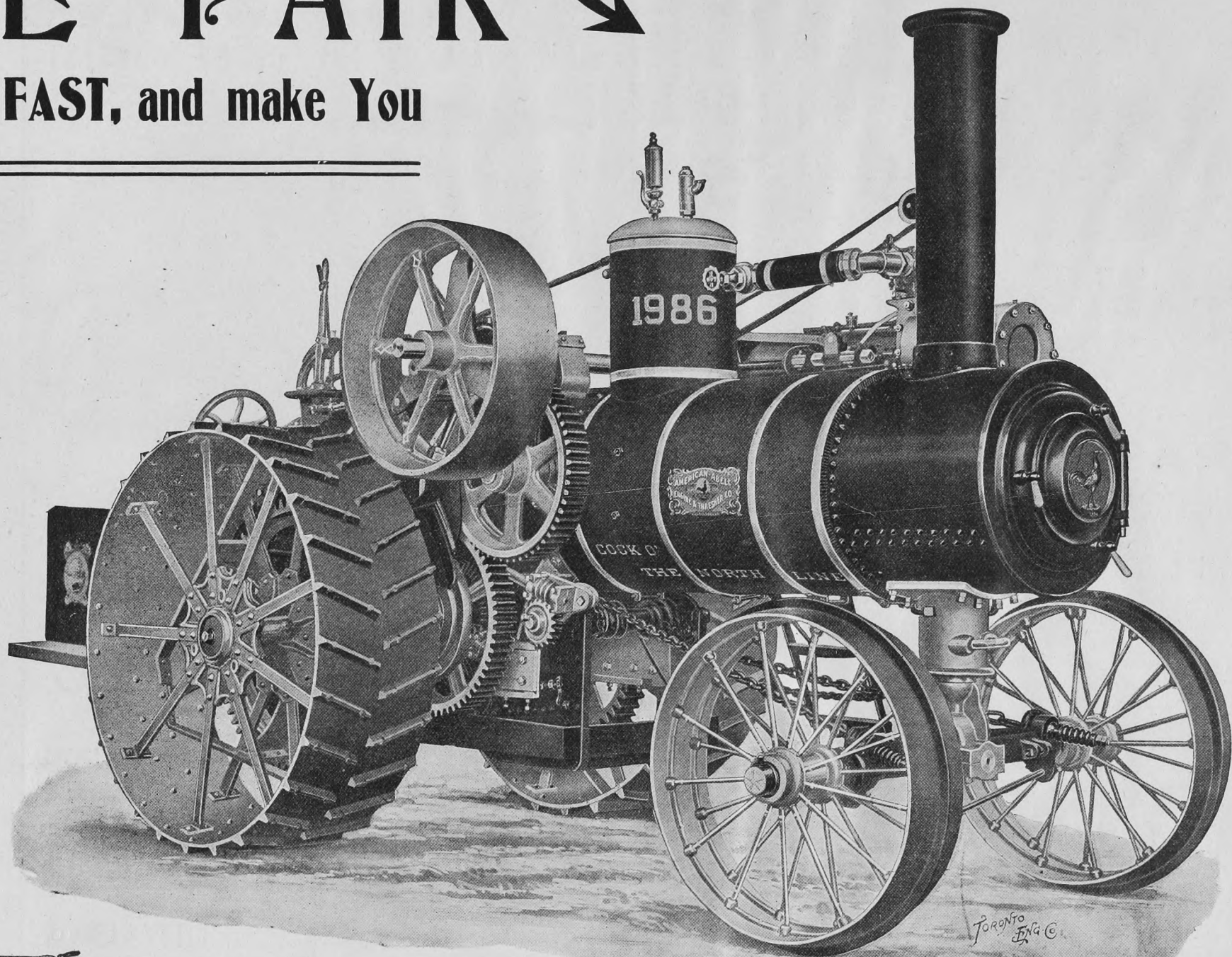
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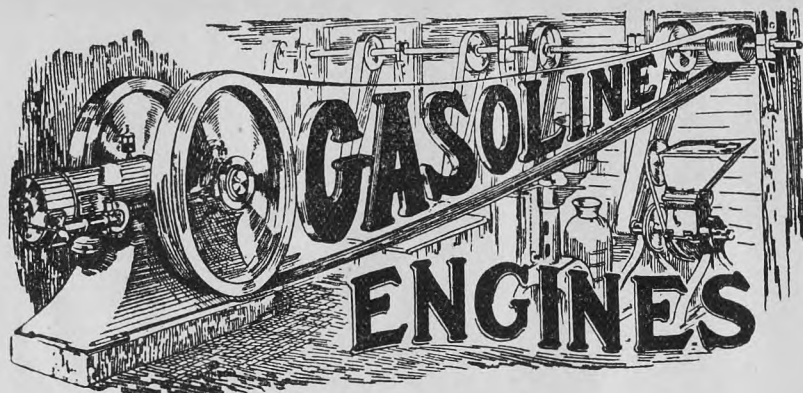
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IGNITION

(By Chas. Dawson)

(Continued from August)

I will here discuss the relative value of the continuous spark as compared with the single spark. There has been much discussion on this point and it is a case in which both sides may score a victory. "Circumstances alter cases" as the old saying goes and it is the variation of surrounding and controlling conditions which leads to the widely different results obtained by apparently similar means. Provided everything is all right and conditions perfect, there seems to be no difference, but under certain conditions the continuous spark gives better results.

The plainest example of this came under my notice in the case of a two stroke gasoline engine. This engine had cylinders five and one-half inch by five inch and was an excellent engine as it gave as much as twenty-seven horse power. I had attached to this engine a magneto which gave a single heavy high tension spark and its chief feature was that it gave just as large a spark when very slowly turned over as when at full speed. Now, with the single spark it was almost impossible to start the engine; it might take half an hour, while using the same coil and simply substituting a battery and using the commutator on the engine it would start every time at the first quarter turn of the crank. This matter caused me much study but I finally demonstrated that the trouble lay with the carburetor. Once the engine was started, the single spark magneto gave better results than the battery. This was owing to the superior current it gave.

This engine was of the so-called three-port type which is always hard on the carburetor as a full vacuum is formed in the crank case before the inlet port is opened, and then it is again almost instantly closed so that the mixture is snatched from the carburetor so suddenly that the jet has hardly time to come into action before the port is again closed. This necessitates a very much wider jet than when the whole

stroke of the piston is used to draw in the charge. Now in this case, when turning the engine over by hand there was much more time for the action of the jet so that the mixture was over-rich when starting, though correct when running. The effect was this: As is well known, a low compression calls for a rich mixture, a poor one won't fire, while if a mixture which is rich enough to fire well, at say thirty pounds compression, won't fire at all if the compression is raised to say seventy pounds. Now, of course, the spark took place at the point of highest compression and so, in the case of the single spark, would not fire, but as the piston commenced to descend, the compression would fall until a point was reached where the mixture would explode and as a continuous spark was of sufficient duration to cover this point, it simply waited until the critical point was reached, and then an explosion ensued with perfect certainty.

This is a good example of one of those cases when apparently one system was useless, while the other gave perfect satisfaction. Of course, the more powerful the ignition, the wider the variation possible in other conditions. If the ignition was powerful enough, it would fire anything, even pure air.

We will now proceed to the discussion of the high tension or jump spark system of ignition. In this system neither of the electrodes move, but one is very highly insulated and the other forms part of the engine mass. The insulation must be inferior to that of the atmosphere as the tension or voltage of the electric current is such that the spark is formed by the current leaping from one electrode to the other, so that unless these electrodes are very well insulated, one from the other, the current will find a path without jumping across the gap. Even when under normal conditions the insulation is sufficient the pressure of soot or carbon on the surface of the insulation may provide a path.

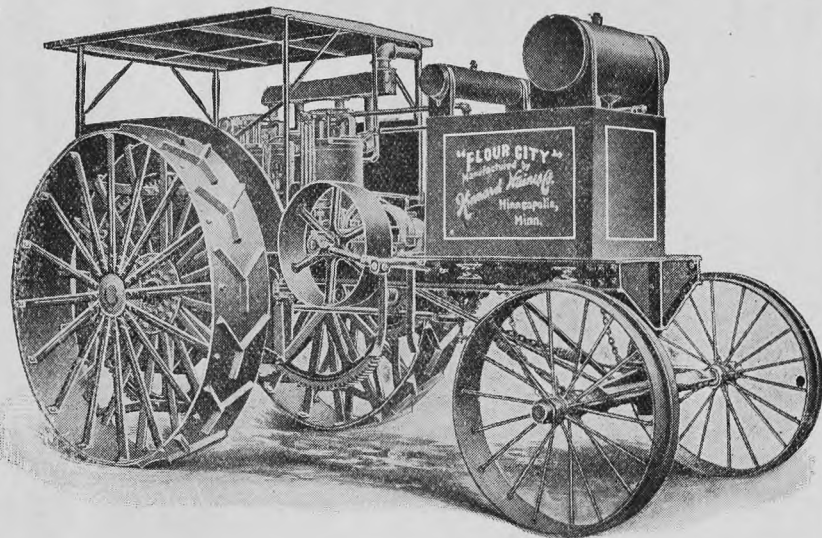
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This high tension current (it varies from some fifteen thousand to twenty-five thousand volts) is generated by means of an induction coil which is a form of transformer. This raises the voltage of the primary current, which may be some eight or ten volts, to one sufficient to leap a gap of some half inch in the air.

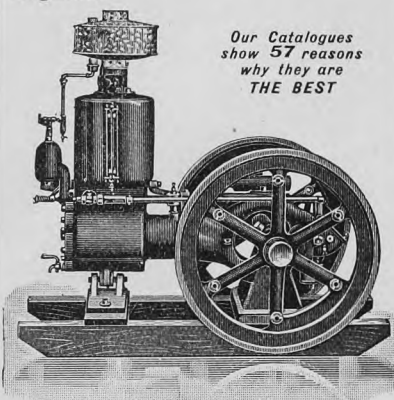
These coils act by the law of electric and magnetic induction. Briefly it is this: A current of electricity passing through one conductor will set up or induce a similar current in an adjoining conductor. The periodical interruption or alternation of the initial current greatly increases the action, while the introduction of a mass of soft iron still further increases it. Now, the intensity or voltage of the current generated in the secondary conductor will depend on the size and number of convolutions of this conductor.

In the case of an ordinary jump spark induction coil this primary winding may consist of only three or four layers of pretty coarse wire, say number seventeen or eighteen while there will be some forty or fifty layers of very fine wire in the secondary winding; this will be number thirty-six or thirty-eight. The relative resistance will be as one to one thousand or fifteen hundred and the rise in voltage will be in somewhat the same ratio. Of course, the insulation of this

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secondary winding must be extremely good in the coil itself and it is right here where so many cheap coils fail.

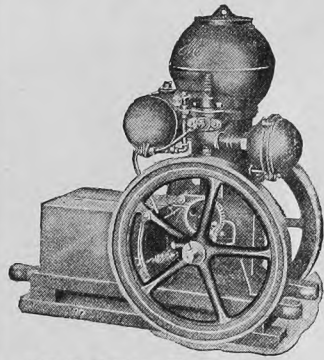
As said above, an interruption of the primary current greatly increases the action, so what is called a vibrator is provided. This is a spring having a piece of soft iron attached which is so arranged that when a current passes through the primary and magnetizes the core, it attracts this piece of soft iron and so breaks the circuit; the action of the spring again completes the circuit and so on. Now, under ordinary circumstances there would be produced at the point of rupture a violent spark just as in the make and break ignition. This would quickly destroy the contacts and would also greatly impede the action of the coil. To avoid this, what is called a condenser is employed. This at once does away with the injurious spark and stores up the extra current for use in increasing the induction power. It acts as a kind of electric accumulator and spring.

The method of installation and operation is as follows: The circuit includes the battery or source of primary current, a commutator operated by the engine and the primary winding of the coil. As a rule, one part of this circuit is formed by the mass of the engine itself. The secondary circuit is formed by the engine mass, the gap in the spark plug, and the high tension wire from the spark plug to the secondary terminal of the coil.

The operation is as follows: When the crank of the engine reaches a certain point of the compression stroke, the brush makes electrical contact with a metallic piece on the commutator which completes the primary circuit by pounding it. This starts the vibrator, which action in turn sets up induction in the secondary winding and a spark then jumps from the insulated electrode across the gap to the pounded electrode, one spark to each time the primary circuit is broken by the action of the spring and soft iron hammer. This stream of sparks, sixty to one hundred per second, continues as long as the brush makes contact with the pounded segment on the commutator. Now it will at once be seen that all these operations, though occupying an unappreciable amount of time, do take some time, hence the necessity to start the series of operations at such a period as will produce the spark just when it is wanted. The great-est amount of time is required to start the vibrator and in modern coils this is extremely light in order that it may lag as little as possible.

It will now be seen that the strength of the spark must be proportional to the amount of current flowing through the primary winding, while its length will be proportionate to the difference in arc

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and length of the primary and secondary windings. As the length of the spark is increased, its size must necessarily be diminished. Now, the larger the spark, the better it will fire the charge, so that a coil giving a spark, say three-eighths of an inch long but very thick and hot, is far more preferable to one giving a spark, say one and one-half inches long but thin and weak. Such a coil may use more current but it does its work so much better and quicker that the duration of the commutator contact may be reduced and the battery current saved.

On the other hand, the object of the whole affair is to fire the charge in the best manner possible. I think the best plan is to design a coil which will give a fine heavy spark and then use a source of electricity not liable to become exhausted. It has been so commonly assumed that the dry battery is the only suitable source of current, that coil makers have competed, one with another, in the direction of economy of battery current rather than power of spark.

We will now consider the supply of electrical current for the two systems. As before stated, in the case of the butt spark system, a current of high voltage and small volume is preferable, though very fair results are obtained by the use of as low a voltage as ten. The best source of current, however, is a magneto generator. This may be of direct or alternating system. If the former, then the current is continuous and no charge is necessary in the sparking and timing apparatus. Some of these machines are equipped with a governing friction or band pulley which permits the engine being started without a battery, as the pulley ratio is such that a sufficient speed is possible when turning the engine over by hand, while the action of the governing pulley prevents the magneto being overdriven when the

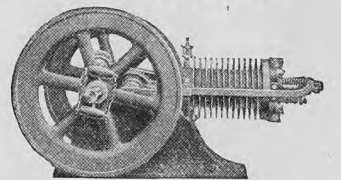
engine is up to speed. Most magnetos, however, have a simple friction pulley or are driven by hand at constant ratio. In this case, it is necessary to start the engine by means of batteries, and when the speed is up to normal the batteries are switched out and the magneto into circuit. This system is only applicable to constant speed engines.

When an alternating magneto is employed, the current is only given off in impulses, two to every revolution of the armature. This necessitates the gearing of the magneto to the engine in some positive manner, as unless this is done the break at the spark points will be liable to occur just when the armature is not giving off any current, which would cause a misfire.

When using this type of magneto in connection with a variable speed engine, when the timing of the spark is changed it is also necessary to vary the moment at which the electric impulse is given, so that the time of impulse and rupture of circuit at spark point correspond. When a magnetic spark plug is used in conjunction with an alternating magneto, all that is necessary is to vary the position of the armature in relation to the crank shaft and the timing follows it. This is generally accomplished by so arranging the magneto that the armature only receives a part of rotation. A catch is arranged which engages a tooth on the armature shaft; this turns the armature through a portion of a revolution. When the catch is released by the timing apparatus, a powerful spring quickly snaps the armature back into its original position, which action produces the current. If the make and break mechanism is attached to the armature shaft, the break and electric current will always remain co-ordinate, and all that will be necessary will be to vary the moment of release in order to change the timing of the spark.

The use of an alternating current

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is advantageous in so much that it maintains a good condition of the sparking points, owing to the fact that the current flows in alternate directions.

When a digest current is used for either butt or jump spark it is a very good plan to introduce a pole reversing switch which will reverse the current each time the engine is started or at any moment. A magneto worked by a catch and spring return yields the same quality of spark no matter how slowly the engine may be turned over, but it is not suitable for high speed engines or when more than one cylinder is to be fired from the same source of current. In that case, a rotary armature becomes necessary with a distributing apparatus which supplies the spark to the different cylinders in turn. Such magnetos are generally geared to the engine and contain the distributor as a part of the magneto. They may either generate a low tension current which passes through an induction coil on its way to the spark plug, or the high voltage current may be generated by the magneto itself.

In either case the timing is effected by changing the shaft. This
(Continued on page 65)

The American Invasion of the Great Lone Land

These are an American's Impressions of Canada.

By FELIX J. KOCH.

(Continued from last month).

An ex-governor of Virginia State, White by name, has remarked this en passant.

And again on the heavy home-seeker trains nearing Winnipeg, one hears them singing "America."

Winnipeg, too, has something to it that recalls the towns of the South-west. It lies with streets flat and the grain elevators and the like standing, therefor, unproportionately high.

Just 57 miles from here there is Arizona Junction, as if to make the South-west the closer. And the north is met, a hundred miles beyond in a Makinak.

Nor has everything come into Canada from the States in this section been an unmixed blessing. Out of Montana for one was called Louis Riel head of the famous Riel Rebellion, between the two branches of the Saskatchewan in 1885. This district was settled largely by French half-breeds who were dissatisfied by the treatment accorded them by the Dominion government in Manitoba. As a result they revolted and secured Riel to lead. Gen. Middleton and a body of militia and volunteers were sent against them, defeating the rebels at Fish Creek and at Batoche on May 9th of that year. Riel was taken prisoner three days later and hung, along with eight of the Indians, at Regina.

Out from Winnipeg now, too, thousands of Americans, along with Canadians and Britons scatter over the lone land. Winnipeg, with its American consul, has been dubbed the Chicago of Canada, it being claimed that they handle more grain here than does even Chicago, this being THE grain mart of the British Empire. The city covers twenty square miles, and, of course, has followed New York and built a Broadway.

Out to the west at Kamsack, at Saskatchewan, the little town on the prairie makes one think again of the far South western towns. There one has the two-story white-painted frame hotel, the Russell House, then the Cote Hall, with its barber-shop and pool-room, its restaurant and bakery, and before these the platform.

After that the muddy street trends along, to the post office in the grocery. Old characters hang about, for all the world as in the corner of the Republic. It seems as if this might be Arizona Junction instead.

Out in the Swan River Valley, the land primarily of the Doukhobor, innumerable German Americans have settled, men from Dakota and Minnesota. These make good settlers, being both thrifty and progressive.

For almost half a century west Canada however, has coveted America as her market. As early as 1875 she exhibited wheat which, grown in the north-east corner of Alberta, up say in 60 N. Latitude; took the first prize at the Philadelphia Exposition.

And now Swiss settlers from La Crosse, come here, admire still the output.

Some nineteen miles from Banning, a Chicago syndicate has come in and operated a silver fox farm. The men have enclosed a great piece of ground and are breeding the silver fox here. The effort seems successful.

Like Iowa grows the rolling prairie, as one continues on beyond Humboldt.

Men from E. Liverpool, in Ohio here, miss the stone, it takes them back to the glacial rock, found out of its true position near home, and now mounted up in a park there. Then, again, some other town, a mere "baby" city interrupts the scene, a rival this in thrift to California's famous baby cities.

Over this section, one, W. J. Whyte, American Inspector of Immigration Agencies for Canada, is supreme. It is he who directly or indirectly has managed to bring most these folks into here.

Even American shows have made their entrance and nearing Saskatoon where the scattered houses over the prairie make one think of the New Mexican deserts, "Uncle Toms Cabin" is played. It brings to mind tales of the west, and of how down at San Anton, ladies fear to visit the famous "Hole In the Wall," only to find themselves in it unconsciously, the place being no dive at all, but a most respectable resort.

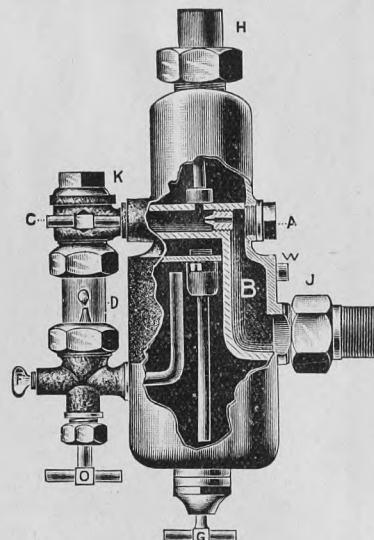
Farther from home patriotism grows on the traveller and immigrants on the trains are wont at times to form line and march from car to car, singing not alone "America" but Dixie."

As one goes on and on he meets ex-Americans who are interesting for their stories. At North Battleford, one is a certain H. Cameron, ex. of Minneapolis, and later of South Dakota. He left there in 1902, has been here ever since and now would not go back, he says, as he expatiates on the opportunities here for a man.

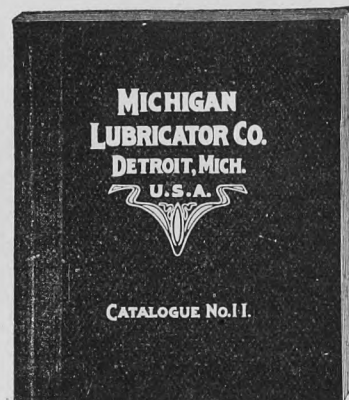
At North Battleford and thereabouts the land along the tracks is owned, alternate sections, by the railroads. One wonders, therefore, why these do not take the immigrants pouring into the "States," for which we have no longer use and settle them on these lands.

Another old man here, come

Michigan Lubricators



HOT STUFF,
Showing Heating Chamber.



OUR HOT STUFF AND PEPPER POD LUBRICATORS

are guaranteed to maintain the oil at scalding temperatures, in the most severe cold weather.

We want Threshermen to have a copy of our catalogue free.

Manufacturers

MICHIGAN LUBRICATOR CO.
DETROIT ————— MICH.

KEEPS OUT COLD

KEEPS IN HEAT

EDDY'S

IMPERVIOUS SHEATHING

Imitation is sincere flattery, yet there is no reason why you should accept imitations (even at a lower price), when you can secure EDDY'S IMPERVIOUS SHEATHING, acknowledged to be

THE BEST BUILDING PAPER.

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TEES & PERSSE, LTD., Agents
CALGARY WINNIPEG EDMONTON

"Always Everywhere in Canada, Use Eddy's Matches."

CARRIES NO ODOR.

ABSORBS MOISTURE.

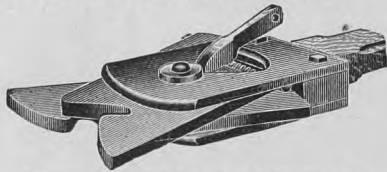
Big Bargains for Early Cash Buyers

Before purchasing your supplies for the coming season send for our new Catalogue. The many bargains we offer will surprise and please you.

Our VETERAN DRIVE BELT is by all odds the very best drive Belt made. It has 15 per cent. more rows of stitches than any other make, it is from 5 to 10 pounds heavier and is fully 20 per cent. stronger and more durable. We have been selling them for seven years now, and practically all those first sold are still working and in good order. Notwithstanding, we are selling these VETERAN BELTS this year at about the same prices others charge for common ones. In Canvas Covers too, we have extra good values. The 18x30 ft. 10-oz. cover we sell for \$16.10. Other sizes in proportion. Best Tank Pump \$6.75 more 2 in. wire lined Suction Hose 37c. per foot. 2 in. wire lined, canvas covered Suction Hose 50c. per ft. (see cut). These are only sample prices



The Belt with a Service Record



Johnson Automatic Engine Coupler—Best Coupler made. Price \$6.00



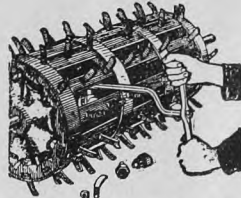
Stock Feed Cookers, very cheap



25 lb. only, pail \$2.50



Outfit No. 2, sufficient for 20 sq. ft. \$6.00
Outfit No. 3, sufficient for 10 sq. ft. \$3.50



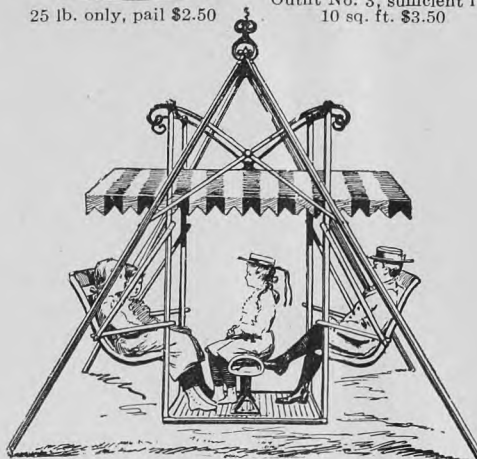
Veteran Belt Dressing 2 lb. can price, \$1.00



PRICES: 650 Cylinder Oil, per bbl. \$18.00. Castor Machine, gal. 30c. Red Engine oil, gal. 30c.



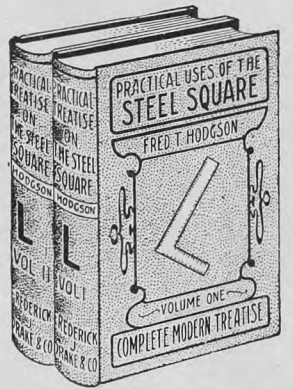
Bar Belt Dressing, 1 lb. stick price 50c



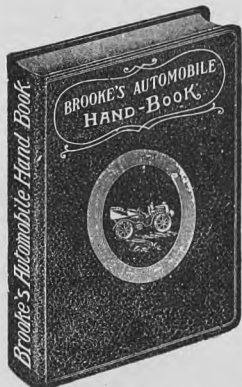
Steel Lawn Swing without third seat \$13.00



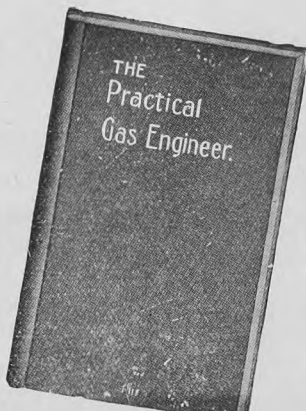
Ham Headlight, complete with bracket \$9.00



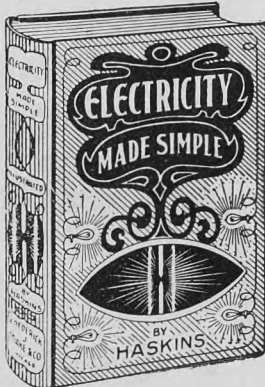
\$1.00 per vol. postpaid



Price postpaid \$1.50



Price postpaid \$1.00



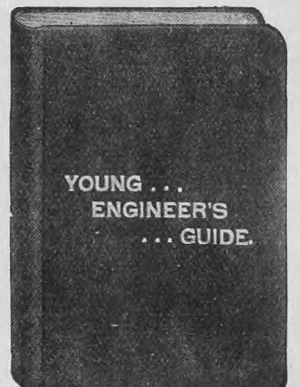
Price postpaid \$1.00



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Price postpaid \$1.00

Send for Catalogue. It will make you wise on where to buy. Address

WINDSOR SUPPLY COMPANY

Windsor, Ontario

five years before Riels' Rebellion, recounts how the Indians, to whom he taught agriculture hereabouts, did not revolt in Riels' Rebellion, very largely through the example of the Sitting Bull revolt showing how useless it would be. In the United States the Indian agents are rascally, ex-superintendants of agencies to the contrary, notwithstanding, many buying at a great price, to be charged the government, and then dividing up with the vendor; in Canada things are otherwise.

This section of Canada, folk tell you is to be saved for immigrants from the United States. They want to bring in four or five thousand more such. How adaptable this land is, those who saw it ten years ago and now again, must realize. It has its charm, too, this Canada,—Jas. J. Hill, the great American railway builder, in his old age, is retiring to Canada.

Up at Battleford there are some settlers from Rhode Island, even. No pioneering here for these, as

there was in "Rhodes" own colonizing, since the railway has come first and so removed the hardship. Young Women from Indiana and other States, who have married Canadians are often encountered. Up on the boundary with Alberta, Lloydminster, a town of little homes and shops, one and two storeys, makes one think again of the settlements in California's Imperial Valley.

At Vermillion, in this province, there is an American Hotel. And there two, three Chinamen in the window of a little laundry make one think of west Kansas saloons of yore. When White, the Immigrant Master was at Vermillion years ago, he had the only paper west of the Assiniboine. Even then exchanges were made with American papers as far to the south as Tomb-stone, and he admits to-day, of having imitated these in many of their ways.

The night-rider troubles in Kentucky have caused considerable

immigration from that state. White recognized the meaning of this and so went down to Cadiz himself, while other agents were sent into Kentucky, to divert these refugees towards Canada.

At Vegreville, winter wheat is raised in quantities, and so they make the boast that they can take care of the surplus population of all North Dakota here. Many settlers from Missouri and Kansas are here abouts. When corn is 90c. at New Orleans and 82c. on the cornfields of Kansas, they invite the folk to come. From Vegreville however little grain is shipped to the States. Vegreville's present mayor had started really for the Klondike when he went west. Come to Edmonton, however, folk advised him not to go so far, and so he settled here, and has become the mayor. Cincinnati playing-cards are to be found in this municipality.

Everywhere out here in the west too, American threshing machinery abounds.

Up at Edmonton, most northerly city on the Continent, Dakota and Minnesota settlers are numerous. Then, too, there are Folk whom the Kentucky night-riders have driven here.

On the streets one meets with men from California. There are sections of the city which remind of suburbs of Cincinnati. And to cap the similarity, signs of Cincinnati yeast are here. Where a chinaman shines one's shoes, behind a barber-shop, a stove, made in Cleveland, O., heats you. Away up there too, folk speak with grateful praise of the work of Consul Taylor in making known this section. American farmers here taught the Canadians much anent this land. And again, the farmers who have come have induced others to follow. At Edmonton, public speakers therefore, vaunt the time when a flag for Canada and the United, one and the same shall be flown. It makes one think, this, of the speeches of '76.



Here in the hotel, a curious telephone, a Chicago export is in use. To call a party one requires no exchange, but instead at one side of the machine are a series of slots numbered one to ten, with lever to draw down in each. To call, say number 312, one pulls down first lever 3, then 1, then 2, when the bell is rung at proper house.

Iowans too, are often met in the district round the hotel here.

Up at Calgary there is an American consul. And there too are folk from Iowa, where press and government are banded in one to make government. Worst of all are seen at Calgary, American plows tear up the soil. Here again Texas is brought to mind by a home-steaders house, with a single white star in the eaves. Over the river, too, the low smooth hills recall the buttes in the extreme south-west corner of the States, out beyond San Diego. Virginia creeper is found in some of these towns set on the porches, as against the wind.

Reaching the Rockies on one's journey west makes one recall entering the shasta region of California, or again the Adirondacks. The Rip Van Winkle land of Canada this seems.

In fact the Rockies are full of parallels, the ride to Lake Louise, for one, is greatly like that up Mt. Lowe. And here, too, one often cannot see around a bend in the forest. The chalet beside the lake, in turn, makes one think of an evening spent a-top Mt. Wilson.

Lagan, too, is a great resort for folk from Washington State.

Back toward the east, but further south at Nanon and otherwheres, American machines for the farm are sold. Out near Macleod too, the farms have frame compounds, set out on the prairie much as one sees these in the Sini Valley of California. And in the Hudson Bay Company's stores here, American "Teddy Bears" are sold. Not far distant there is a town of Mormons, though in the country round innumerable Americans have settled. There is no wild frontier life to combat and the Kentuckian or the Dakotan can build his farm as he would at home. Only the alkali in the air, setting the lips to bleed as in the South-west, here let one from the Blue Grass note the difference.

A Texan, too, has a farm here, this with a sod roof, later plastered over.

Out in this section farmers leave a strip of wild grass land along the road as a sort of neutral ground, they could not afford this in the States. Then, too, one sees a stretch of a thousand acres of unimproved land held by a Kentuckian, who turns fifteen hundred cattle out to graze.

Now and then men from here will steal a horse and try to get to Montana, a matter of sixty miles. Often, however, these are overtaken

by the North-west police and land in near-by jails.

Strangers coming to these towns are asked at once which in their party come from the States, in hopes there may be some one from their own states. South Dakotans in particular, seem in demand.

Folk in this section look to the Yellowstone as their great summer camping ground.

Then as one reaches Lethbridge, he finds a Tennessean, one W. D. Hardy, in charge of the mines. Thanks to the proximity to the boundary of the States there is much smuggling going on here. The enthusiasm of these folk over what they raise, and save, reminds one of the Californians.

Quite a number of settlers, here, again, hail from Macon, Mo., and from Selma County, in the same State. Let some one from the home town drop in on these, and stranger or no, he must stop over and dine with them. Illinois and Iowa and the Dakotas, and Minnesota, one and all are represented.

And even at Lethbridge, ad's of American sewing-machines show they have carried their industry along with them. Druggists, here too, use great quantities of American goods, purchased largely through Montreal agents of a New York house.

One of the Royal North-West police stationed out here, hails originally from Coldwater, Mich. So is another state represented. In this section the railroad is suspected of importing men across the border, to break a strike, for one is near Montana here,—in fact at Medicine Hat, one is only ninety miles from the boundary.

From Medicine Hat not long since, a man went in his 60 H. P. auto, a Franklin, to California, to play polo there.

Medicine Hat has its American Hotel. It is from this place that the weather reports, anent tornadoes and the like emanate, being distributed then by the United States.

At Swift Current, again, a Chinaman runs the Chicago restaurant.

Then, at Moose Jaw one finds Nebraska settlers to have come. Nebraska country papers reach these still. From here hogs are exported to the Armour's at 4c. the pound, coming back as ham at 20c.

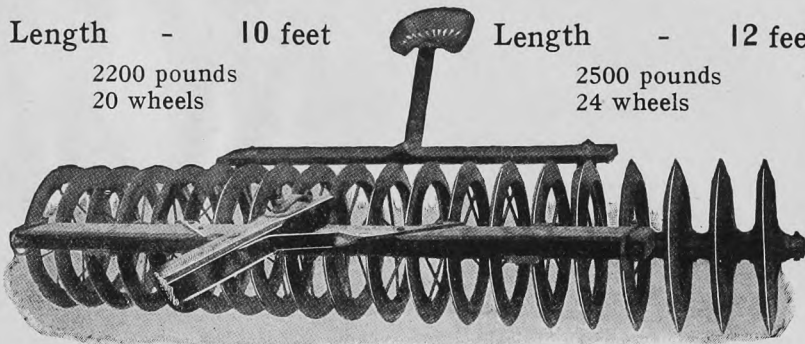
Many Interesting Features in the New Building of the Gandy Belting Company of Baltimore, Maryland, U. S. A.

With the completion of a large four story addition, The Gandy Belting Company of Baltimore, Maryland, now has the largest factory in the world devoted to the manufacture of cotton duck belting.

The modern construction of this addition should be of interest to our readers. The careful consideration of economy, order and protection should commend itself to all building owners and prospective builders.

THE FULTON Improved Sub-Surface Packer

Length - 10 feet Length - 12 feet
2200 pounds 2500 pounds
20 wheels 24 wheels



Patented June 29th, 1909

Manufactured in Winnipeg

Several hundred of Western Canada's most progressive farmers have purchased and are using this implement which was formerly sold as the Brandon Sub-Surface Packer, and the result from fitting the soil with it has proved to them, beyond a question of doubt, that a strata of well-packed soil several inches thick will produce a better crop than soil that is not packed at all, or only slightly packed on the surface. Improvements have been recently made and added to the old machine making it more complete and better than ever as a soil packer. Catalog and testimonials furnished. Our new facilities for manufacturing this machine enables us to turn out a better implement and at a considerable reduction in price over the old machines. You get more packer quality for less money. Get our prices before purchasing a packer of any make. We can save you money.

The Sub-Surface Packer Co., Ltd.

WINNIPEG

MANITOBA

Pin a dollar bill to this coupon, and if you are not more than satisfied back goes your dollar

One Dollar will bring you the 12 Numbers of "THE CANADIAN THRESHERMAN AND FARMER." If any premiums are wanted see list below.

To E. H. HEATH CO. LIMITED,
Winnipeg, Canada.

Please find enclosed for
one year's Subscription to "THE CANADIAN THRESHERMAN AND FARMER," and
one which are to be sent to address below:
(Premium wanted)

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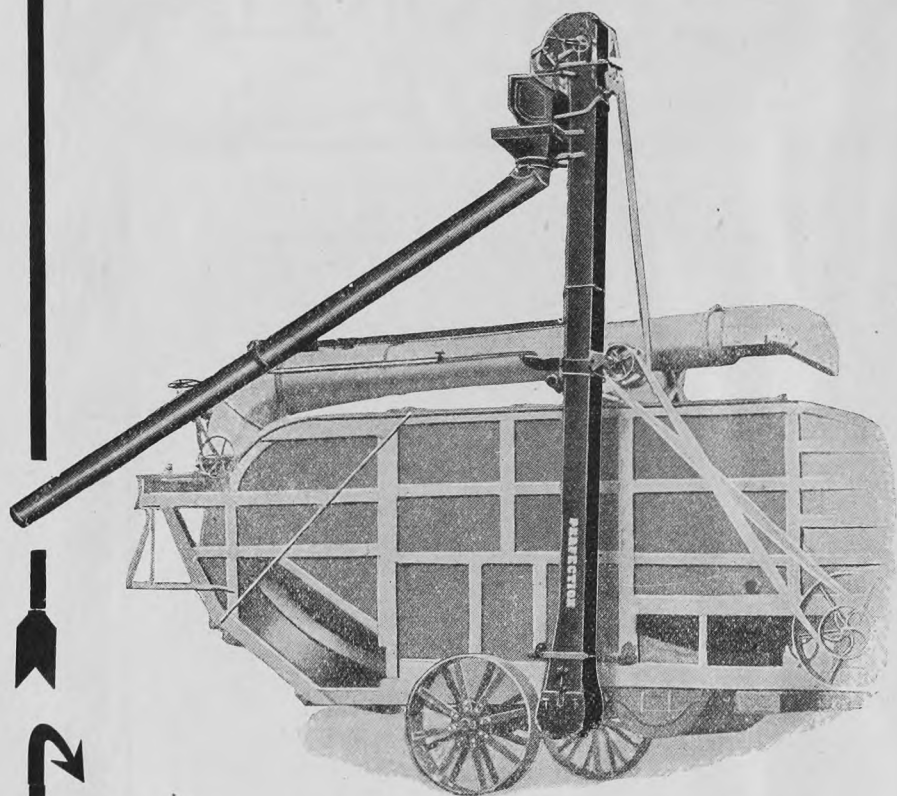
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If a renewal, please state "Renewal"

The "Canadian Thresherman and Farmer" one year and Farmer's Rapid Calculator	\$1.10
The "Canadian Thresherman and Farmer" one year and Coleman Lace Cutter	\$1.10
The "Canadian Thresherman and Farmer" one year and Settlement Book	\$1.25
The "Canadian Thresherman and Farmer" one year and Farm Engines and How to Run Them	\$1.25
The "Canadian Thresherman and Farmer" one year and Gas and Oil Engines	\$1.25
The "Canadian Thresherman and Farmer" one year and Speed Indicator	\$1.60
The "Canadian Thresherman and Farmer" one year and "Weekly Free Press"	\$1.50
The "Canadian Thresherman and Farmer" one year and "Weekly Telegram"	\$1.50

Don't forget that your Dollar is held in trust for you until you are perfectly satisfied with "THE CANADIAN THRESHERMAN AND FARMER."

Now is the Time to Find Out



Ask any successful Thresherman what weigher is on his outfit.

Ask any satisfied Farmer what weigher was used in threshing his grain.

The threshing season is now on and weighers are being used every day.

A few inquiries will soon convince you that HART GRAIN WEIGHERS are making good.

Hart Grain Weigher Co.

PEORIA ILLINOIS, U.S.A.

The new building has a frontage of 110 feet on Fremont Avenue, and 104 feet on King Street, four stories. It is of slow burning, or New England Mill construction, each floor being divided into three bays each of 25 foot span, and one bay of 30 foot span, the capacity of each being 300 lbs. per sq. foot, live load. The columns are of Georgia, Long Leaf Yellow Pine and the floors are four inches thick, made of 3 inches of Yellow Pine Plank and 1 inch Maple.

Three fireproof stairways are provided, also an electric elevator driven by a three phase induction motor.

The careful consideration given protection from fire is evidenced in the standard tin covered fire shutters, besides metal window frames and wire glass windows provided on all sides where exposed to surrounding buildings.

There is a complete system of plumbing and electric wiring so arranged that connections and extensions can be made to suit any condition that may arise. This one feature alone is an undoubted source of economy to factory builders. The future saving in repairs compensates many fold for the comparatively small original expenditure.

A 30,000 gallon steel water tank which surmounts this building supplies a complete sprinklers system, to which is also connected an approved fire pump, located in a fire proof compartment.

A large portion of the floor space is devoted to the specially con-

structed stretching apparatus designed by the Gandy Belting Company. When it is understood that the stretch in canvas belts has heretofore been one of the most serious drawbacks to overcome in its manufacture, the importance of the success of this device used exclusively by the Gandy Company

use throughout the entire civilized world. Progressive agencies have been established in such far removed points as Yokohama, Japan; Shanghai, China; Cape Town, South Africa, and the important cities of most of the European Countries.

The foundation of the Gandy Belt is a very heavy duck woven

pany's factory is the sewing machines used. These machines were built in their own machine shops and have patented features possessed by no other machines. One of these being that they stitch with an imbedded stitch, resulting as is readily seen in a smooth surface for the belt and at the same time welding the plies more solidly together.

After stitching, the belt is treated to a secret process which renders it water, heat and steamproof.

With these exclusive features the manufacturers claim they produce the most durable belt on the market for Driving, Elevating and Conveying purposes.

One feature which would prove a valuable asset to any manufacturer who has not yet adopted it, is the policy of the Gandy Belting Company to ship all orders the day of their receipt. Belt users can best appreciate the advantage of this feature who have found the necessity of procuring a belt quick. For this purpose, the Gandy Belting Company carries in stock more than fifteen hundred (1500) rolls of straight roll belting in all sizes from 1 inch 4-ply to 30 inch 10-ply, and for the thresher trade alone (in

which the Gandy Company has established an enviable reputation) they carry a stock of more than 5,000 endless thresher belts to draw upon at all times.

The building just completed was designed, erected and equipped complete by McLaughlin Brothers, Inc. Engineers and Constructors. Baltimore and Philadelphia.



cannot be over estimated by belt-users.

This company occupies such a unique position in the belting world that we believe our readers would be interested in a brief review of its history. The business was established by Mr. Maurice Gandy in 1877 and his invention, the Gandy Belt has now come into extensive

in the Gandy Belting Company's own duck mill, according to specifications adopted by Mr. Gandy thirty years ago, and never since changed as exhaustive tests have conclusively proven this weave to be best for belting purposes. It has an even strain throughout.

One of the most interesting features found in the Gandy Com-

THE FUNNY WORLD

Chicago
ENGRAVING CO.

The matter on this page lays no claim whatever to originality. The one idea is to amuse, to provoke a smile. If it fulfil this mission we shall feel amply repaid for the time and labor expended in its preparation. Have you read or heard something that has made you laugh? Has it chased dull care away for a time? Then pass it along for publication in our Funny World. Such contributions will be greatly appreciated.

"My lazy son has at last decided on a profession that he thinks he'll like."

"Good. What has he chosen?"

"He wants to be a lineman for a wireless telegraph company."

Gunner—And now comes a professor who declares that fruit is just as healthy with the skin on it as it is peeled.

Guy—H'm! I'd like to see somebody start him on a diet of pineapple.

HOOTFOOT HARRY—An old school-mate o' mine hung out his lawyer's shingle yesterday, and to-day I offered him his first case, just to help him along.

SLUMBER MOZE—Wot was de case?

HOOTFOOT HARRY—Told 'im de world owed me a livin' and offered 'im fifty per cent. to collect de debt.

Ethel, aged three, had been to visit her cousins, two fun-loving and romping boys. She had climbed upon her father's knee and was telling him of her visit. "Papa, every night John and George say their prayers they ask God to make them good boys," said she, "That is nice," said papa. Then thinking soberly for a few minutes, she said, "He ain't done it yet."

Mrs. Blank prided herself on her ability to train her servants, and she had just been bragging about the treasure she had in her new colored cook when the following dialogue occurred.

"Now, Amaranth, I'll come out and fry the chicken, but I want you to have it all ready for me. Dress it carefully and be sure to singe off every hair."

"Yas'm."

"Then cut it up just as I showed you the other day. Do you remember?"

"Yas'm."

"Wash and drain it well. You understand?"

"Yas'm."

"Then, as an after thought, 'Shall I kill it?'"

A certain theatrical troupe, after a dreary and unsuccessful tour, finally arrived in a small New Jersey town, says an exchange. That night, though there was no furore or general uprising of the audience, there was enough hand-clapping to arouse the troupe's defected spirits. The leading man stepped to the footlights after the first act and bowed profoundly. Still the clapping continued.

When he went behind the scenes he saw an Irish stage-hand laughing heartily. "Well, what do you think of that?" asked the actor, throwing his chest.

"What d'ye mane?" inquired the Irishman.

"Why the hand clapping out there," was the reply.

"Hand-clapping?"

"Yes," said Thespian, "they're giving me enough applause to show they appreciate me."

"D'ye call that applause?" inquired the old fellow. "Who, that's not applause. That's the audience killin' mosquitoes."

"The motor car is fast superceding the horse."

"I've no doubt of it. I found a bit of rubber tire in my sausage this morning."

There were several visitors present in a Louisville public school not long ago, and the proficient manner in which her charges were reciting was affording their teacher great though concealed delight.

"Evelyne," she asked, "is kiss a common or a proper noun?"

A fourteen-year-old blue-grass maiden rose. Long lashes were lowered over her eyes, and a slight blush stole into the creamy cheek.

"It is rather common, Miss Gray," she said, "and, under certain circumstances quite proper!"

An old negro was asleep on the train out of Sedalia the other day, mouth open and snoring, when a commercial traveler emptied a quinine capsule on his tongue. The old darkey awakened began to spit round and called for the conductor, saying:

"Boss, is there a doctor on this train?"

"I don't know," said the conductor.

"Are you sick?"

"Yes, sir, I sho' is sick, I sho' is sick, I sho' is sick."

"What is the matter with you?"

"I dunno, sir, but it taste like I busted my gall."

"I hope," said the captain, addressing the passengers on a small coaster, "that we all twenty-five will have a pleasant trip." The soup then appeared. "I trust, too, that we—er—twenty-four will reach port benefited by the voyage, and, as I look upon you—er—twenty-two smiling faces, I am sure this group of er—seventeen will be a happy family. Will all of you—er—thirteen I see at the table join me in drinking a health to our coming trip? We, seven, that is, three—well, you and I, my dear sir—here, steward, clear away these dishes."

A city bred man, who had never been to the seashore, decided one day to make the trip. Arriving there, he remembered an old saying that sea water was good to bathe aching feet in, and straightway he took a bucket and proceeded to the seashore.

He noticed a party of men near the water, and, thinking they owned the sea water, he asked, "What do you charge for a bucket of your water?"

"Twenty-five cents," answered one of the party who was out for a joke.

The city man handed over a quarter and filled his bucket.

After bathing his feet in the salt water and finding the same beneficial, he decided later in the day to go and buy another bucket for another bath for his feet.

He accordingly took his bucket and proceeded again to the shore. The tide had now gone down and the water was at low ebb.

"H'm," he mused, "those fellows must have been doing a rushing business since I left!"

"I want to buy a dog that will look fierce and won't bite anybody," said the lady to the dog-dealer.

"You'd better get a china one, mum."

"May I ask what is your occupation, sir?" said the old boarder to the latest arrival.

"My occupation?" replied the newcomer, "Oh, I'm a sculptor."

"You carve marble, do you?"

"Yes."

"Ah, I foresee you will be a valuable acquisition to this house. Will you kindly come up to this end of the table and carve this fowl?"

A Dutchman addressing his dog, said: "You vas only a dog, but I vish I vas you. Ven you go mit your bed in, you shust turns around dree times and lay down. Ven I go mit the bed in, I have to lock up de blace, and vind up the clock, and put the cat out, and ondress myself; and my frau she vake up and scold, den the baby vakes up and cries, and I haf to valk him mit de house round; den maybe ven I gets myself to bed it is time to get up again. Ven you get up you shust stretch yourself, dig your neck a liddle, and you vas up. I haf to light de fire, put on de keddle, scrap some mit my vife already, and get my breakfast. You play around all day and haf blenty of fun. I haf to work all day and haf blenty of drubble. Den ven you die you vas dead; ven I die I haf to go somewhere."

"I want some collars for my husband," said a lady in a department store, "but I am afraid I have forgotten the size." "Thirteen and a half, ma'am?" suggested the clerk. "That's it. How on earth did you know?" "Gentlemen who let their wives buy their collars for 'em are always about that size, ma'am," exclaimed the observant clerk.

Mr. and Mrs. Shea were one day waiting at a railway station for their train. When the train arrived, Mrs. Shea went into a carriage labelled "Ladies only." Her husband was about to follow when he was stopped by the guard, who told him that the compartment was reserved for ladies. "That's all right, my good man," said Mr. Shea, "but you should not stop me, for"—pointing to his wife—"I'm as much of a Shea (she) as she is."

This story would read better if the incident had happened when there was company at dinner. As a matter of fact, however, only the family was present. The new maid had recommended herself as having been employed in the households of various people of fashion. Things went smoothly enough at the first dinner which she served until the meat and vegetable course was finished. Then, instead of taking away the dishes, she stood idly in a corner. Finally her mistress said: "You may remove the dishes now, Kate, and serve the dessert." "All right, mum, I'm waiting. 'Waiting for What?'" "Waiting for you to stack." "Stack what?" "Why, stack the dishes and shove them down to this end of the table."

A Word From Alberta

Dear Sir; Having been a very interested reader of your popular magazine for some years, and especially anything pertaining to threshing, I will answer your call for letters from threshers by trying to write something for the benefit of our young beginners.

As there are so many failures in the profession (for such it is) I will endeavor to give some advice to that class which I believe includes the majority of new beginners, who are doomed from the start, to go under. For example I will relate my experience the last season, 1908, which will illustrate some of the points I wish to impress upon them.

In May last a young would-be thresher bought a second-hand J. I. Case 25 horse Traction engine with plow tender. Plows are expected to do big things by breaking prairie in this district.

As I met him on his way from town with some repairs which were needed before moving the rig home, he told me all about his investment and asked if I would take charge of the engine while he moved her home. As I was busy seeding I could not promise so he said he would see me again before he was ready to move. A few days later he drove into my field where I was at work and said he was after me to help put on the repairs and move home (about 5 miles) so that he could fit out the plows, etc. I told him I could not leave my horses idle, but if I could get a man to drive them I would be there next afternoon. I also gave him instructions for putting on the repairs and filling the boiler, which he and his man had done when I arrived, so after testing the gauge cocks, etc. I told him to fire up while I looked her over as she had stood there idle for a year.

As soon as steam raised a little I noticed one of the hand-holes leaking, which I screwed a little tighter, but still it leaked a little and continued to increase as the pressure became greater. I asked him if he put the point in straight. He said he thought so but was not sure, so I decided to stop firing and let her cool off as I had enough steam to run the engine and get her in shape for moving. By the time she was cold enough to straighten the point and pump more water into the boiler it was night, so having enough in the glass for the night I told him to fire until he had about forty pounds, then bank the fire and leave her until I came in the morning, then I went home, not having far to go.

When I arrived next morning he had the blower turned on full and was firing away while steam was up to 70 lbs.

He grinned when I came up, evidently thinking he was pretty smart. On looking at the water gauge I discovered there was no water in sight and inquired at once if the hand-hole had leaked again;

He said it hadn't. Where's the water gone then? I don't know. Why did you start to fire before I came. Oh, I thought that we'd get started sooner. Well if you are running the business you had better get some water into her or you will move before you are ready. For my part it doesn't look good to me around here so I'll get breakfast and leave her to you. On entering the house and telling how I found the engine the former owner told me that steam was blowing off for about half an hour the night before, and they (my boss and his brother), had pulled the whistle off and on all midnight so it was no wonder the water was low. I went out and spoke to him about it and, by the way, the water was just showing in the glass then, which was about 20 minutes after I told him to start the injector.

Of course I left her pretty high in front so the crown sheet must have been covered or the plug would have melted out before I came.

He laughed when I told him what the old man had informed me, and said he did it just for fun. That it was dark and he did not think about the pop valve or whistle lowering the water, although they had to fire quite a bit to make the whistle sound very loud. I was disgusted and told him I felt like going home and staying there, but he said it would learn him a good lesson, and if I would stay he would do as I told him hereafter. So I stayed. We moved her home that day. Then he wanted to hire me to run her for a job of plowing, he had taken about 80 acres. I told him if my men would go ahead with my work at home I would, and to look for me in about three days, which would give him time to fit out. Well I went back and we did the plowing, everything running fine, and he was tickled right up the back, so much so, in fact, that he hired me right there for the breaking season and the fall threshing.

However, it was so wet after seeding that steam plowing was out of the question so we never pulled out.

When next I heard of him it was to the effect that he was preparing for the threshing, and was going to operate the engine himself, having secured a provisional certificate, while his father-in-law evidently puffed up a little over his son-in-law's prowess had purchased a new Case steel separator 36x58, thereby making a full rig with which they set out to make their fortunes.

They ran two days when the old man came after me, and being a German he came to the point at once by asking if I would come for a week.

I asked if he wanted me for engineer or separator man. Oh, he says both I guess. I might state just here that I have threshed four persons here in Alberta with my own rig, which I sold during the summer and had threshed for the old man on two occasions, one as

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separator man and next as engineer, so he judged I was capable of doing both in a pinch.

I told him I could come for the balance of the week, it being Tuesday, and inquired of him if anything was the matter. "Well yes," he said

"some lumber went out the blower this afternoon and I have to go for bolts to fix up, so if you be there by to-morrow at noon we will be ready to thresh. I got there at noon and they were set, and had threshed some during the morning,

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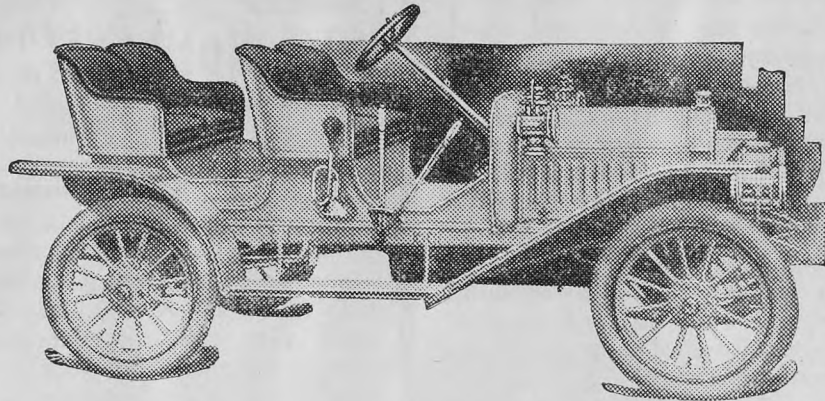
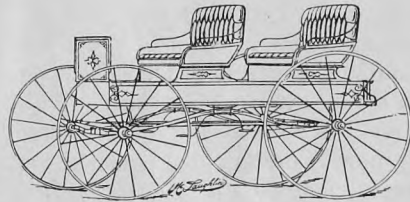
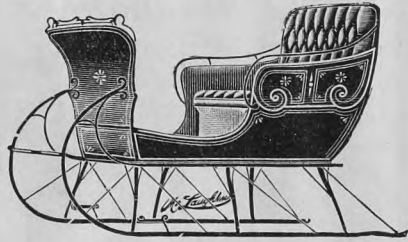
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but could not feed very fast as the tailings elevator became overloaded and the belt would slip off, so the engineer told me. I asked him how he was getting along with the engine. "Oh fine," said he. "But the old man is getting hell back there, pointing over his shoulder towards the separator. "Maybe you're giving him hell," said I. "Why I don't think so for I help him out all I can." "We'll see, how's your steam?" "All ready to start up any time you are ready." "Well then throw off the belt till I see how she's running." "What for?" "Oh I just want to see if you're giving the old man a showdown." He shouted to the boys and threw off the belt. Then I started her up, but she was not getting any cylinder oil so I stopped her and looked in the pump. It was full. I asked him when he filled it. He said one hour before dinner. How did she run, did she keep up the speed? "Not very good." "She is not taking oil so the pump must be plugged up or something." I took it apart and found dirt and chaff from one end to the other.

"Where's your oil can?" He told the fireman to bring it, which he did, and it was a sight, chaff all over inside and out. "How did all that get in the pump through that screen," I asked? "Oh," said the fireman, "if it wouldn't run through the screen we took the screen out and poured it in." "Well, well!" I couldn't repress a smile. I cleaned

out the pump and filled it with clean oil, then tried her again, but when the throttle was open full she fairly danced she ran so fast I stopped her and told him to screw down the governor until I told him to stop, then I started her again and let him reduce her speed until it was as near right as I could judge.

I then asked him how long he had run her like that. He said since yesterday morning. And the lumber went out the blower afternoon awhile. Eh, yes. Well you are fortunate that everything else inside the separator didn't follow that lumber for instead of running her at 250 revolutions per minute, which is the required speed for the separator you had her nearly 300, and would soon have shook her all to pieces.

He laughed and said he thought he'd give the old man lots of speed anyway, and I guess he did. I then went back to the separator and found several bolts and boxes loose, which I tightened and then gave the sign to start slowly. She appeared to be all right so I motioned for full speed, and called to the pitchers to "roll her in," but in about a minute the elevator belt was off and she was full of grain and chaff all over. The old man told me she had bucked like that all the time unless they fed very slow. I found the adjustable sieve in the shoe nearly closed, so the oats had no other place to go than over into the tailings screw or into the blower.

We got her cleaned out and the sieve opened up and started again after which I regulated the wind, put on a little belt dressing, etc., then she run like a top. We had no more stops except for setting and threshed about 1,100 bushels of oats and barley the rest of the afternoon. That night I slept with the old man, and after telling me some of the things which had bothered him, and which I explained as clearly as I could he heaved a sigh and said: "I had a good life and nothing to bother me, but now I got a machine, and I have much trouble." I sympathised with the poor old fellow and thought how many there are just like him, who see just a little too late what a big mistake they have made. The next day the wind had blown a lot of decayed moss and other stuff to the side of the lake where the tanky got the water, and he filled the tank and then the tender with the stuff consequently it was not long before it was running down the smoke stack, and we had to stop on account of her foaming. I asked the engineer if he did not know better than fill her up with that trash, and he said there was no other water to use, so what could he do?

I told him none at all was better than that, for it was so thick it would scarcely pass through the injector.

We emptied the tank and tender and got some clean water from a spring with which we changed the

water in the boiler (taking about two hours in all), then threshed until noon. After dinner we pulled into a new setting, where the front wheels of the separator were very high, so I stopped the engine when she was nearly in her place and told him to wait until I dug some holes, then pull her in before he unhooked the cable. I got one dug, and was digging the other while the pitchers stretched out the belt, when suddenly away he went, the wheel just missing my foot, and pulled her nearly through the stacks and onto the drive belt, which it tore in two pieces before he got her stopped. I ran around to him and asked him what he meant by that. Oh, he said, I forgot about the cable. I did not say much, but felt like expressing myself in good plain terms. However, I told him to rustle some pieces of belt and copper rivets to patch up with, adding that he had lost a weeks wages for a good engineer in the damage to the belt, besides it took three hours to get the repairs and fix it so we could run again.

We got under way about 4 o'clock, and soon had to stop for steam. I opened the smoke box and found it half full of ashes, which told me the flues had not been punched at noon. I asked the fireman why that was, and was amused at the answer. The engineer said that 'twas too hard a job to do it twice a day, so I let them

go. What do your brother threshers think of that?

They turned on the blower and we soon started again for a half hour or so, when from the top of the separator I saw steam coming out through the damper and heard that peculiar hissing sound, while the engineer and fireman were peeping in where they could see where the steam came from. I asked him what was wrong when he had stopped and came up with a long face. I don't know, but there's steam coming out of the firebox all over.

Have you any water in the glass? No. How's that? I couldn't take water and keep up steam too. So you let it get so low you melted out the soft plug. Why is that, what is it. Yes, and that means no more work to-day, for it will take until night for her to cool down enough to get in there and put in a new plug.

This ended the worst day's threshing I have ever experienced, and I came very near going home that night, I was so disgusted.

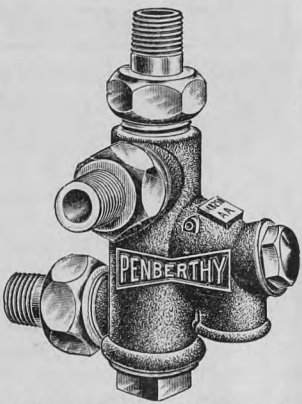
The next day was not much better, so I went to the old man and told him if I stayed I should have a row with the engineer so I had better quit and go home. He felt pretty sick and offered me the same wages if I would stay the season, and take full charge, and let him stay home which I finally accepted after getting the partners together and telling them what had to be done, and how the engineer would have to change his ways if I stayed.

I will not relate the experiences of the following days so far as threshing is concerned, but will merely give an account of the engineer's opinion of the business. Of course as time went on the engineer gradually got onto his job and we made a little better time in moving around and things went more to my liking.


But as soon as the cold weather came on he got sick of his job and his hoses, pipes, and what not, would be frozen full of ice, and so on until he wished he had never seen or heard of an engine and was constantly expressing the wish that we were through, and he was home

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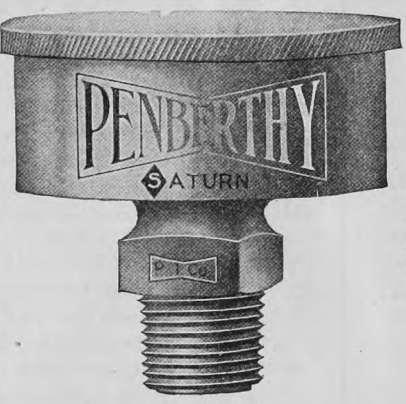
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for good, sometimes adding that he had enough of the business and it was the last season for him.

Well, he ended up by leaving her right where she broke down while moving across the frozen prairie and she sits there yet while he collected the bulk of the accounts and pulled out for parts unknown, leaving the old man sorrier, if not wiser, from the experience.

Now, in conclusion, I wish to say to would-be threshers: If you have a hankering for the business, don't rush right off to the nearest agent, and order a rig, and give all your earthly possessions in security, as is usually done. But hire as pitcher or fireman with some first-

class outfit and learn the business thoroughly from the bottom up by keeping your eyes and ears open for everything that will be of use to you, and if possible put off the desire to begin on your own hook until you thoroughly understand both ends of the outfit, which will take a natural born machinist probably four or five seasons, while some would not become expert enough to make a success of it in a lifetime.

The chances are that if you do become expert in operating either end you will have found and see that it pays as well generally and oftentimes a good deal better to be the hired man than the boss.

If, however you are still of the opinion that you can make money at it, get the best machine you can, not having cheapness for your object whatever. Hire good men and pay them good wages. A cheap man is generally an expensive one around a threshing rig. Use everyone alike, as near as is practical, and no more. In other words: charge a fair price and don't make a cut for some big farmer and soak some one else who has a smaller job.

Be accommodating where your customer is a "white man" but if he is a rascal and looks on you and your crew as a mat to wipe his feet on, as galores of them do, who

(Continued on page 68)

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Winnipeg, August 25.

THE promise of abundant crops throughout North America has been forcing grain prices to lower levels for the past few weeks and the final values that will prevail for grain during this Fall will depend entirely upon the weather until threshing is over. In some sections of the country cutting is now general, in fact, up to date, there have been six cars of new wheat inspected in Winnipeg, all of which have graded No 1. This would seem to point to a high grading crop, and should it come to market at anything like present values, it would certainly net the farmers of this country a handsome reward for the year's work. The present value of October as you will note is around 96c. and compares very well with the values at which the early crop came to market last year. There is an exceptionally good demand for the higher grades and nice premiums over the option values are being offered and paid for new wheat to be delivered the latter part of September and the first half of October. There has been a large trade done for export and it is doubtless these traders who are now in the market bidding premiums for specified grades in order to secure to themselves the early wheat with which to fill their sales for promised shipments. It is impossible to come to any decided opinion as to what the average value of grain this Fall will be. Advices report very large yields and while American granaries are empty at present, it is quite within the bounds of possibilities that there may be sufficient deliveries to force the prices lower. The fact that our farmers are be-

coming more well to do may keep deliveries back more than has been the case in the past, thereby getting away from any marked car shortage or any surplus supply of grain which would have the tendency to force values lower.

Values on oats have been steadily seeking lower levels, October being at present about 6c. under the high point. There are still considerable stocks of the old crop in store, and from indications, it would seem that we are about to harvest a very large crop of this grain in Western Canada. Statisticians tell us that we have an increase in acreage amounting to about 15 per cent. over last year, and the yield will undoubtedly be a good one. To counteract this, however, come reports of the failure of the oat crop in Ontario this year. That province is a large user of oats and will take quite large quantities of our Western grain with which to satisfy their needs. However, we will doubtless have a large exportable surplus and values will have to be based on an export basis. This at present is not established, being too early in the season.

New barley will bring normal prices, some buyers now being willing to contract for No. 3 at about 45c. delivered Ft. William or Port Arthur.

Flax remains very steady without very much activity in the trading. American oil mills are beginning to look in our direction for supplies and it would not be surprising to see them in our market this Fall.

The following are the values which are being bid for the different grades of grain in store Ft. William or Port Arthur: No. 1 Nor. \$1.11, No. 2 Nor. \$1.09, No. 3 Northern \$1.04, No. 2 C.W. Oats .38, August Wheat \$1.07, October

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Open Letter No. 2 to the Canadian Public in Connection With the Award Given in the Motor Contest at the Recent Winnipeg Industrial Exhibition.

Mr. H. E. Lambe in his open letter published in the August issue of the Canadian Thresherman and Farmer, practically states that the inspiration of the letter was the injustice done to his firm, Marshall Sons Co. Ltd. Gainsborough, England. I am of the opinion that he will find after a careful reading of his letter, that the average farmer whether a citizen of Canada or the United States, will arrive at the conclusion that the letter was inspired by the fact that Mr. Lambe's physical make-up is such that he is unable to take an honest defeat with good grace, as a true sportsman should. Instead, his letter would indicate that he was endeavoring to give the General Public an imitation of the "Booby School Boy" who runs to teacher and tells her that the other boys play too rough.

The innocence of Mr. Lambe in his effort to place his case before the public is to say the least amusing. Mr. Lambe's shaft of criticism is first aimed at my entry No. 13. A word of explanation regarding the brake test of this entry is probably due the Judges of the Contest. I was informed by one of the judges that it required 3 h.p. to overcome the friction of the brake, and I very naturally supposed that this would be added to the horse-power determined by the dynamometer measurement in arriving at the horse-power the engine was developing; and when I was informed by the Judges that the dynamometer was indicating 29.7 horse-power at the beginning of the brake test of my entry No. 13, I concluded that this amount plus the 3 h.p. brake friction, would give me 32.7 h.p. a sufficient amount to place me in Class C, where I supposed until I saw the printed record I was classed.

However, it seems to me that Mr. Lambe is the last man to complain of this error in judgment on my part (I was subsequently informed that the three h.p. was not credited to any of the contestants), as in my case No. 13 had been placed in Class C, Mr. Lambe would evidently not have received even the Silver Medal. A reference to the judges record shows that Mr. Lambe's entry No. 8 has only 102 points to its credit; while my No. 13 has 105.8 points.

Referring to his entry No. 12 which was a two cylinder engine

and which he claimed tested over 30 brake horse power; how is it that the records show a complete failure in the brake test of this engine? And if Mr. Lambe claims superiority for this two cylinder engine over my entry No. 13, how is it that in the hauling test that the records show that he only pulled a load of 13,870 lbs. with an average draw bar pull of 1,650 a distance of 21,440 ft. in 111½ minutes, with a fuel consumption of 10.2 gallons of gasoline and a water consumption of 28 gallons. While my entry No. 13 pulled 19,480 lbs. with a draw-bar pull of 2,390 lbs. a distance of 24,120 ft. in 98 minutes, with a fuel consumption of 6.93 gallons of gasoline and a water consumption of 12 gallons?

A comparison of the records in the plowing contests of these two engines is still more to the discredit of Mr. Lambe's entry No. 12. He pulled five 14-in. plows for a period of 103 minutes plowing only 1.59 acres, and consumed 4.99 gallons of gasoline per acre; While my entry No. 13 pulled six 14-in. plows for a period of 101 minutes plowing 2.55 acres, and consumed only 2.41 gallons of gasoline per acre, or something less than one half the amount of fuel per acre that his entry No. 12 required, and if in actual practice in the field, but little more than one-half the labor cost per acre. The fuel and labor consumption are features that the average Canadian farmer will unquestionably give careful consideration. Further comment as to the relative merit of these two engines is unnecessary.

Referring now to the comparison as referred to by Mr. Lambe in his letter between his entry No. 8 and my entry No. 16—(His large size engine and my large engine in the Contest) I am inclined to think the general public will conclude that Mr. Lambe got all that was coming to him when he got the silver medal. If in the brake test he saw fit to crowd his engine to its extreme limit of capacity, and I thought it proper to operate my engine at a comfortable load, and a load that could be maintained in actual work all day long; it was simply an exercise of judgment on his part, as well as on my own, as to what is the proper method to pursue in the conducting of a test of that nature, and a reference in the records will show that he was only able to show 7.6 h.p. hours

per unit of fuel, while I showed 8.4. Another case where further comment is unnecessary.

To those who were familiar with the unfair method attempted to be pursued in the hauling Contest of Mr. Lambe's No. 8 entry, it would seem that the less he said about that contest and the less he criticises the fairness of the judges the better off he would be. While I was not a personal observer, I was informed by several of the Contestants, as well as by my own engineer, that in this test Mr. Lambe's entry No. 8 attempted to haul his own 25 h.p. steam engine as his load; and had steam up on the hauled engine and was using steam to assist him over the hard places; and only desisted when detected in the act and was required by the judges to put his 25 h.p. steam engine in a condition that would make it impossible that assistance could be secured from the steam engine when difficulty was encountered on the course.

Is friend Lambe in a position to discover the beam in the eyes of the judges, or in my eye with such a large mote in his own eye? Is he the person to charge the judges with prejudice and lack of honesty and integrity? He would better leave that to some one whose skirts were clear.

The plowing contest as between these two engines, Mr. Lambe's No. 8 and my No. 16 also affords some very interesting comparisons, while both engines pulled eight 14-in. plows, accomplishing practically the same amount of acreage in the same time, according to the records, Mr. Lambe's engine required 3.77 gallons of gasoline per acre; while my engine required only 2.48 gallons per acre. In other words, Mr. Lambe's engine used more than 50% more gasoline per acre than my engine in breaking. His average depth of plowing was no greater and the quality of the work done no better, and his furrows were not as straight. Is not that a comparison that is of material interest to the farmers of Canada, or in fact any country?

Mr. Lambe accuses the Judges of inaccuracy regarding the record of his draw-bar pull at plowing, claiming the record should read 8,000 lbs. instead of 5,500 lbs. Does Mr. Lambe expect any one familiar with the power required to pull a 14-inch plow to believe that it requires 1,000

lbs. draw-bar pull to handle a 14-inch plow; when 650 to 700 lbs. was the average draw-bar pull required per plow of all the others used in the Contest? I am inclined to think the makers of the plow he used would take issue with him regarding such a claim, and they surely would be justified in demurring to his claim.

In his letter, Mr. Lambe assures the public that he is going to send a copy of same to several of the High Officials in England; also publish it in all the Great London papers. Does he purpose invoking the power of Great Britain to assist him in tearing away the well earned Gold Medal honestly won by the Kinnard-Haines Co. in the contest referred to? Please don't, Mr. Lambe. That great and influential Company you represent as having 400 or 500 Gold Medals now in its possession surely will not begrudge us the two we have won at Winnipeg two years in succession.

In conclusion I will say that the most amusing part of Mr. Lambe's letter is the postscript wherein he states "He has just learned that his engine won the Gold Medal at Brandon." I heartily congratulate Mr. Lambe on his well-earned victory in that Contest. A reference to the Official Report, discloses the fact that his was the only entry in Class C—a most glorious victory. I am wondering how many of the 400 or 500 medals he refers to as having been won by his firm, were won in such terrific tests as the one he was engaged in at Brandon.

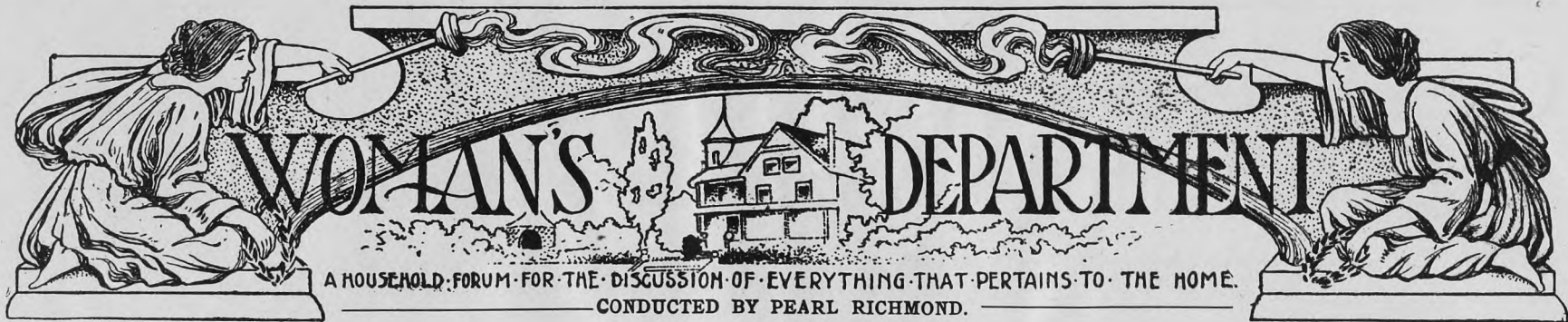
Just one word of advice to Mr. Lambe, Don't take the Canadian farmer for a fool. He is nothing of the kind; he is a reading and thinking man, and I too, am willing to leave the verdict with him. But unlike Mr. Lambe I will say that instead of publicly accusing the Judges in the Winnipeg Industrial Exhibition of unfairness, inaccuracy and prejudice; that it is my opinion that no set of Judges ever displayed more fairness, honesty and integrity than did the Judges who conducted and decided that contest.

Respectfully,

O. B. KINNARD,

Kinnard-Haines Co.

Minneapolis, Minnesota, U.S.A.



Thou Dost But Lend.

BY CORA LAPHAM HAZARD.

GIVE thou with lavish hand ungrudgingly
Thy choicest seed into the sullen soil.
Thou dost but lend ; it smiling will repay
A thousandfold thy bounty and thy toil

Give thou unto the world unstintingly,
As sower dost, of thought and deed thy best,
Thou dost but lend ; for back to thine
own life They will return, and thine
own heart be blest.

The Vision

BY CALVIN DILL WILSON

LO, the earth was a ball of flame;
and then,
Said Doubt, It can never be home for men.
When the dark was on the face of the deep,
Said Fear, Life never can burst from sleep.
When vaporous, heavy, and dense was air,
'Twas fair Hope itself that was
trembling there.
Ne'er here can be path for a bird's swift
wing ;
Here never of love will a woman sing ;
No, never can life and beauty be
'Midst these tall waves and this wild tum-
bling sea.

But order and harvests and peace have
come ;
The grass grows green ; man has found a
home.
And still men shrink from the end of the
scheme,
And say higher hopes are only a dream.
The lesson of chaos, on to this sod,
Is trust—for the dreamer of dreams is God.

Women are Reforming Social Chaos

Some of these facts below are from Rheta Childe Dow's article on "What Eight Million Women Want."

WHATEVER all the women in the country want they will get. The women of the world through organization are expressing their collective opinions and desires.

The International Council of Women expresses a collective opinion.

Women's Clubs all over the world are doing important good.

It is not the habit of women to do things for themselves alone. They live to serve.

At Dallas, Texas, the women's club began to talk about the dangers of the mosquito. Pools of water all over the town swarmed with the dreadful pest, and these insects spread contagion and death. The city authorities said they had not money to cover the pools with oil. One of the club women said, "Let's buy a whole lot of oil and do the work ourselves." So the work of saving hundreds of lives began in this club.

The members of the club mapped out the city, organized their forces, bought oil and oilcans and worked. The school-children of the city with their teachers go out every year and cover the pools with oil.

Likewise women's clubs have organized departments of child-labor, and departments of civics.

Women's clubs all over the country have been establishing playgrounds, and now the poor children of our cities have clean, healthful playgrounds and vacation schools where the boys learn trades and the girls learn to sew and cook instead of being allowed to grow into reckless careless and helpless men and women.

In Birmingham, Alabama, the club women have formed "block-clubs," composed of women living in each block, and the mayor has invested them with powers of supervision, control of street-cleaning, and disposal of waste and garbage. The women's clubs of Cranford, New Jersey, hold regular town house cleanings. One club in the Middle West is educating public opinion in favor of spring and fall municipal house-cleaning. They got a photographer and went the rounds of streets, lanes and backyards.

Then women are saving historical places.

The Canadian Women's Club is creating patriotic reverence in their efforts to carefully protect our important landmarks. California women saved the big tree grove, New Jersey women by years of hard work saved the Palisades of the Hudson and inaugurated the movement to turn them into a public park, and the Colorado women saved the Cliff Dwellers remains.

Women are organized for social service, and are working toward definite social ends.

At their great conventions like the one recently held in Toronto, the women compare their work, and criticise it, and confer on public questions, and decide which movements they should promote. Their work is international in its scope.

Just one vital problem they are working on is how to establish a pure milk system for children. Thousands of innocent children are being sacrificed every day because they are fed with impure milk. It is an alarming fact but true, nevertheless, that many herds of cattle in our country give milk that is full of tubercular germs.

Then too, the milk is not kept in clean cans.

The women are determined to improve this condition and they will.

Very often club women are criticized by women whose only interests are in their own homes. They lose sight of the fact that club women are women of intellect and experience who foresee the immense power an organized womanhood may wield toward vital existing conditions that need to be improved.

At the recent Convention in Toronto, the delegates were among the most prominent women of twenty different nations.

Now these women working together will mean important service in civic affairs. They are reforming social chaos.

The women's clubs have founded more libraries than Mr. Carnegie. They have placed libraries in schools, factories, on lonely farms, in mining camps, lumber camps, and in isolated villages.

More than 8,000,000 women belong to the International Council of Women. Titled women in every European country belong to their councils. The Queen of Greece is President of the Greek council.

The International Council of Women holds a great world congress once every five years. The fifth of these congresses was recently held in Toronto, Canada.

This great organization of women is made up of titled women, millionaires' wives, farmers' wives, professional women and factory girls. Every public movement needs the co-operation of women. These women are working for peace and arbitration, social purity, and removal of women's legal disabilities. We certainly appreciate the power of women when they work for what they want.

Health Hints.

Health is an energetic woman's capital.

Never paper a wall over another paper.

Sleeping rooms should be sunned and aired every day.

The simplest food is, as a rule, the most healthful.

All the medicines in creation are not worth a farthing to the woman who is constantly violating the laws of her own nature.

A woman who has a perfectly healthy skin is almost certain to be healthy in other respects. In no way can the health of the skin be preserved but by frequent bathing.

Tight-lacing, the wearing of heavy skirts, neglect to properly clothe the limbs, the wearing of high-heeled shoes,—these errors in dress are responsible for a large share of weak backs and other diseases among women.

Ice-water is one of our common causes for indigestion. This is true of all over-chilled foods. Hot foods are not quite so bad, but from eating very hot and icy-cold foods the digestion is crippled.

One may purify the blood more in a single day by breathing pure air, than by taking sarsaparilla or any other blood-purifier for a year.

It is not what one eats that nourishes her but what she digests.

Pain stands as a light-house to warn navigators on the sea of life whenever they are approaching the shoals of over-fed idleness, the rough breakers of neglect and general disregard of nature's laws, or the giddy whirlpool of passions stimulated and gratified.

God's oxygen is the best tonic known.

Nothing relieves thirst like water.

Sunshine cures more diseases than the whole category of patent medicines.

A quaint old Dutch physician had great faith in the mechanical cure of disease. It was a favorite saying of his that more patients would be cured by climbing a bitter wood tree, than by drinking a decoction of its leaves.

The man who has good health has golden wealth, though his pocket-book be thin, and his bill of fare a crust.

Do Not Drink Tea and Coffee During Meals.

Tea, coffee, cocoa and hot water, with sugar and milk, drunk during meals, will soon cripple a giant digestion. Drink tea, if you must, between luncheon and dinner, say at four or five o'clock. Use coffee and cocoa as breakfast foods, and



man. There are so many people who really want a phonograph but it all at once that I have decided on a free use of the phonograph while you wait. There is absolutely no charge to a third party, no going before a court and the payments are so very small.

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a cup of black coffee after dinner, not with it. By this I mean, do not take a mouthful of food and then a mouthful of coffee; we are apt to moisten the food and mix it with the coffee and prevent mouth digestion. Eat the meal, drink coffee if you must, but at the last. Coffee diluted with cream, with sugar added, after a breakfast of cereals, toast and fruit, will frequently provoke sour stomach by causing fermentation; the same coffee taken clear in small quantity after dinner, will prevent fermentation. For this reason we take our after dinner coffee in a small cup. Chocolate is a food and must be counted as such in bills-of-fare.

Why Men Make the Best Cooks.

A great deal might be said, pro and con, on the question of women entering into competition with those of the sterner sex, but on the above subject a very strong position is taken by Monsieur A. Escoffier, G. C. A., who writes as follows:

"Cooking is undoubtedly a fine art, and an accomplished chef is as much of an artist in his particular branch of work as a painter or sculptor. There is as much difference between good cooking and bad as between a symphony performed by a great master on a first-rate instrument, and a so-called melody played by some out-of-tune barrel organ. In the ordinary domestic duties it is very hard to find a man equaling, much less excelling a woman—it is her sphere in life; but cooking rises far above a mere domestic duty; it is, as I have said before, a fine art. The reason that in cooking the palm has always been awarded to 'mere man' is not far to seek. It is not because man is more epicurean than woman, for this, though maintained by women, is not a fact. Woman is quite as fastidious over her food as the ordinary man, and bestows as much thought over her meal as he does. It is simply that man is more thorough in his work, and thoroughness is at the root of all good cooking as of everything else. A man is more particular over the various little details which are necessary to make up a really perfect dish. Take, for example, an Indian curry, containing so many little trifling ingredients—all of which are equally important to make a perfect dish when finished. The loss of one would mean the spoiling of the others, and the complete ruin of the flavor of the curry. A man knows this, and will have them all. None are too unimportant for his consideration. A woman, on the other hand, will manage with what she has got handy. This is very nice and obliging of her, no doubt, but it eventually spoils her cooking, and the dish is not a success. One of the chief faults in a woman's cooking is her want of accuracy over the smaller items—the exact amount of flavoring, the right

condiments to each dish; and that is one of the chief reasons why her cooking pales before that of a man, who makes his dishes preferable on all occasions to hers. To a chef his work is a 'joy forever,' and he invents new dishes with as much pride and care as a modiste of a milliner creates some new gown or hat; and he carefully studies the trifling details of each separate flavor before he sends his new masterpiece of culinary art before his patrons. When women have learned that no trifle is too small for their consideration, then we may find them at the head of the kitchens of the chief clubs and hotels; but until then there will certainly be at least one place where man can reign supreme.

A Slipper Hunt for the Bride-Elect.

The young friends of a popular engaged girl devised a pretty and amusing game, to follow a luncheon given in her honor, and to round out a pleasant afternoon. It was a lucky slipper search, little slippers cut from stiff white paper, being hidden all round the room, like nuts for a nut hunt, for the guests to search for. The hunt began by bell signal and ended in the same way. The girl finding the first slipper after the bell for commencing the search rang, was hailed as the next prospective bride by the present company. The young woman who captured most slippers in the twenty minutes allowed for searching was entitled to a prize. This took the form of a crystal flower-holder in the form of a bridal slipper. The girl finding the first slipper was greeted with a shower of rice from some unexpected quarter, which created great fun.

Spider Hunt for Children.

A delightful game invented for a child's party recently was a spider hunt. The spiders were big, realistic-looking creatures made of raw cotton and brown crepe paper, and in the body of each a tiny gift was hidden away.

The web, arranged to span the ceiling at one end of the room, was made of several balls of shiny silver wire. The spiders were lodged in this web, not tied to it in any way.

Each child in turn received the toy broom, and the announcement was made that any spider lifted down on the broom belonged to the person lifting it.

After obtaining one insect and consequently one gift the little players withdrew from the competition.

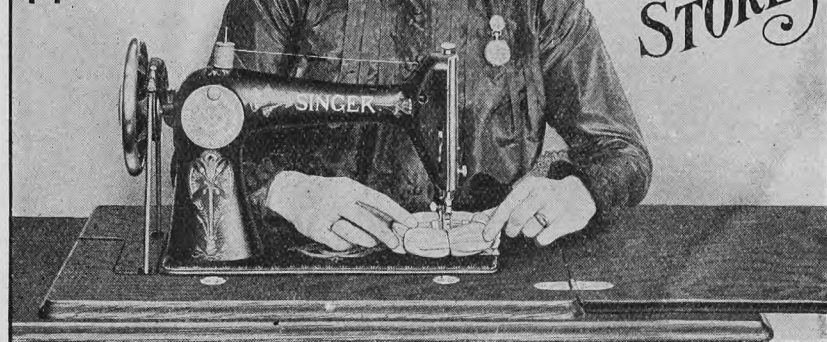
Funny fortunes written in rhyme can be substituted for the girls when it is desired to avoid expense.

It would be difficult to over-estimate the influence which the cooking of our dinners exerts over us, both as individuals and as a nation. It has been argued that the continual wars and bloodshed of the Middle Ages were really caused by the crude and demoralizing cookery of the period.

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Suggestions for Thought

"Which is more satisfying to a woman's ears? One man says, 'My mother has a vote'; another, who has risen to success in the ranks of men, says, 'My mother's influence made me what I am.'"

Let the father make a friend of his boy from babyhood, and that boy will not at the age of twenty suddenly loom before him as a problem that is as annoying as it is difficult of solution.

It pays wives and mothers and sons and daughters to be careful of the morning toilet. The first impression is likely to be lasting; so greet everyone in the morning looking fresh, sweet and attractive.

Great truth is contained in the sentiment: We make careful thought for the stranger And have smiles for the sometime guest

But oft for our own The careless gown, Though we loved our own the best.

RECIPES,

Preserving Rhubarb

To preserve rhubarb so that it may be ready for use at any time during the Winter, wash the rhubarb, and cut it into small pieces as though for stewing, being careful to remove all the strings. Then pack the uncooked rhubarb into regulation preserve jars, filling them to the top, and adding cold water until the jars will hold no more. Seal them tightly, and put them in a cool, dark place. Rhubarb preserved in this manner may be kept green and fresh all winter.—Mrs. J. V. W., HAGFOES, SWEDEN.

Preserving Vegetables for Winter Use.

If you will take freshly gathered green corn on the cob or carefully shelled peas or beans, and dip them in boiling water, then dry them in a room in which there is a free circulation of air, they will not only keep until far into the Winter but will retain all their freshness and flavor. Corn preserved in this fashion can easily be served, still on the cob, as a surprise dish at the Christmas dinner. This is an old family secret, and I have never known of a case in which it failed to give satisfaction.

Making Cherry Pickles

The ordinary way of making cherry pickle is to pack the fruit into jars and pour boiling spiced vinegar over it. This however, wrinkles the cherries, whereas if they are closely packed in the jars with their stems up, and cold spiced vinegar is used, a similar result is attained, except that the fruit will remain plump and attractive. My method is to fill the jars about three-fourths full of cherries. Then for each quart jar utilized I take one cupful of vinegar, half a cupful of sugar, a dozen whole cloves, two sticks of cinnamon, and six blades of mace. This I boil for five minutes; then, when it is cooled sufficiently, I pour it over the fruit, and seal the jars as quickly and as tightly as possible. This pickle should not be used until it has had time to stand for from six weeks to two months.

Delicious and healthful as frozen dainties may be at any season of the year, it is during the sultry, humid days of the hot months that they appeal to the capacious appetite as the most desirable combination of food and drink that it is possible to imagine.

For this reason, if for no other, the wise house-wife should make it a point to serve ices of some sort frequently during the Summer season. Trouble! Of course they are a trifle more troublesome than some desserts, because they must be frozen but, beyond that, there is no sweet that can be made more easily, for, contrary to a somewhat general impression, the making of good ice-cream is one of the simplest problems that the culinary artist has to solve.

In the first place, in making one of the ordinary creams or ices, it is necessary to master but one recipe. Using this as

the foundation, the only difference that need be made is in the kind of flavoring material, and in the quantity of sugar used in accordance with the acidity of the fruit. Thus the following recipe for orange ice may be used with either lemons, grapes, raspberries, strawberries, pineapple, or other fruits

ORANGE OR OTHER FRUIT ICE.—Boil one quart of water, then pour it over one pound of sugar. When the latter has dissolved, pour the syrup over the carefully extracted juice of six oranges and two lemons. Let it stand for about thirty minutes; then strain and freeze. If a sherbet is to be made, add the stiffly beaten whites of two eggs just before packing the ice.

ICE CREAM.—Beat two eggs—the whites and yolks together—and mix them with a quart of rich milk and a pint of cream. Add sugar until the mixture is very sweet if acid fruit juices are to be used. The addition of a little gelatin will make the cream smoother. Finally add the flavoring, and freeze. Certainly nothing could be simpler!

Even the more elaborate ices, like the parfaits, the frappees, the mousses, etc. follow a general rule, so that a single recipe will furnish the basis for many flights in flavoring. For example:

MOUSSE.—Soak a heaping teaspoonful of gelatin in a quarter of a cupful of cold milk or water, and dissolve it over hot water. Let it cool; then strain it into a pint of cream that has already been beaten into a stiff froth and to which fully half a cupful of sugar has been added. Finally add the flavoring materials, and freeze by packing it in a mold in ice and salt.

Of course, from time to time, the genius of the chef is shown in the invention of new frozen dainties. One of these is the "Russian Ice."

RUSSIAN ICE.—Cover the grated rind of two lemons with a quart of boiling water to which a quarter of a pound of candied ginger root, chopped fine, has been added. Cover tightly, and, at the end of about ten minutes, strain into a dish in which the juice of four lemons has already been mixed with two cupfuls of sugar. Let this cool; then strain once more, and freeze. Before packing for the last time, stir into the ice some small pieces of preserved ginger.

ITALIAN COFFEE CREAM.—Put a coffee-cupful and a half of strong coffee in a double boiler; add half a coffee-cupful of milk, the same quantity of sugar, a tablespoonful of granulated gelatin, and a very little salt. Beat the yolks of three eggs thoroughly, mixing them into another half-coffee-cupful of sugar, and, when the mixture in the boiler has heated sufficiently, pour it over them. Return to the boiler, and cook, stirring constantly until it begins to thicken; then remove, and stir in the well-beaten whites of the three eggs. Add flavoring—vanilla is usually selected; then freeze by packing it in a mold and serve with whipped cream.

Experience Extracts

A good cook wastes nothing.

Never leave soap lying in water

The secret of nice broiling is frequent turning

To keep salt dry in the cellars, when the meal is over place a tumbler over them.

A cake filling that is recommended is made from chopped figs mixed with either crabapple or apple jelly.

Nothing should be put in an oven while a cake is baking, and the cake should not be moved until it is thoroughly set.

A good way to cut squash is to cut it into thin slices, dip into egg, powder with cracker dust and fry in boiling lard. It fries very crisp and makes a delightful substitute for meat now and then.

The oven can afford to wait for the cake, but not the cake for the oven.

When the sinks become dull and dirty, as they are apt to in warm weather, wash them with turpentine.

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The Birthday Party.

By MARY F. K. HUTCHINSON.

NOW s'pose you're five or six years old
Or seb'n or eight or nine,
An' have a ma thet's awful good
(Ermost ez good ez mine):
An' s'pose yer birthday comes eround,
What's goin' ter appen then?
Say! I don't think you're very smart
To have ter guess again!
You'll have a birthday party!

An' you'll invite—Oh, everyone
You know, onless you're mean!
An' all the boys'll git there fust,
All lookin' slick an' clean,
An' all the girls, in dress-up duds,
Will act ez if they're dumb
Except Nell Jones, who giggles so
Folks wish she hadn't come,
When there's a birthday party

Big sister'll try to start some games
But that won't help a bit;
Yer can't play even blind-man's buff
When no one will be "it!"
An' every game that she thinks up
Those kids "do'wanter play;"
They jest stan' round, look at the rest
In an expectin' way,
When there's a birthday party!

But when yer ma sez jest five words:
"Now, children, come this way,"
An' leads 'em toward the dinin'-room,
Things change 'bout then, and—say
Them boys an' girls all talk at once
An' never hink of aches,
While they jest stuff with lolly-pops
Ice-cream, an' nut, an' cakes—
An' that's the birthday party!

A New Departure.

Cousin DORIS has had in mind for a considerable time the advisability of changing the Boys and Girls Department into something that would be more up-to-date and practical. I realize that among the many boy and girl readers of the Canadian Thresherman and Farmer that there are many who want to know more about the things they meet everyday. Our boys and girls are constantly seeing land plowed, crops planted, harvested, threshed, etc., but how many know just what part nature plays in all of this work. How many know just why and how a kernel of wheat when planted will germinate and produce its kind in abundance. How many know just why and how one kind of soil is better adapted to certain crops than others. These are things that come under every boy's daily observations and doubtless many of our boys have wondered regarding them. In future numbers Cousin Doris will attempt to present the Story of Nature as it applies to the animal and plant life on the farm, in such a way that every boy and

girl who reads this department will be thoroughly familiar with the soil, plant growth, animal growth and with the hundred and one things that go to make up what is known as farm economics. This latter is a big word but before I get through with this work, I trust that you will all be familiar with it. It means in general such things as cost of producing crops, best methods of marketing them, raising the most from an acre of land, etc. It is a part of the work in which our boys can greatly aid their fathers by applying their knowledge of school arithmetic to the things about the farm. With each lesson I shall give a series of simple problems to be worked out and while they will not be by any means the only problems that can be found they will serve as examples from which our boys can develop other problems from the facts as presented in everyday life about the farm. I want our boys to take hold of this work and follow it closely. You will find it the most interesting thing that you ever followed. It will be a sort of small Agricultural College and when you later on attend such a school (and I know you all will) you will find your work there similar, only on a much larger and broader scale. I am going to give you a chance to do things for yourselves by experiment, using such simple apparatus as you may find about the farm, and I want every one of our boys to carry out these experiments in their spare time. You will find them exceedingly interesting and at the same time they will open your eyes to a great many things that you have wondered at but have never been quite able to work out to your own satisfaction.

I am going to take care of the girls in this work just as well as the boys. While they are one and all interested in crop production to some extent they are not interested in it to the same extent as the boys, but they are interested in that portion of the farm that is covered by Domestic Science, Cooking, Gardening, the Raising of Flowers, Raising of Poultry, etc. all claim their attention and I shall therefore devote a certain portion of this department each month to our girls. We will have a small school of Domestic Science that will follow in a small way the work done in the larger schools of this kind.

Actual work will be laid out for the girls to do on the farm and this work will be so arranged that the materials needed can be found on the farm.

Questions and problems will be arranged at the end of each lesson, the same as those designed for the boys.

I do not mean by changing our department in this way to get out of touch with the boys or girls in so far as their writing me is concerned. I want to know just how you are getting along with the work and will therefore still keep the prize-book proposition open. At the end of each lesson there will be a series of questions and problems to work out and the best answers to these will receive a prize-book. I am planning to make this a grand department, but in order that it may be made to work properly it will be necessary that every one of our boys and girls take hold and help by taking an interest in the work and going into it carefully. Talk it over with the folks at home. Have a talk with your teacher about it, get her to use the lessons in connection with the work in Nature Study in the schools. I am going to present the lessons in such a way that I am sure she would be glad to get hold of them for use in the class room, and at the same time she will aid you in working out the problems.

Now boys and girls, Cousin Doris is going to put the department in your hands and its success will largely depend upon the way you work it out. It can be made a grand success or it can be made a complete failure, but we won't think of the failure part for I know you will do your part and do it gladly.

Lesson 1—Boys.

IT may be well for us in this our first lesson to confine ourselves to becoming familiar with some of the terms and definitions that we will use more or less in this work from time to time. New ones will come up but we will deal with them as in their turn. These terms and definitions should be clear to every boy who has occasion to read the farm journals, attend farmer's institutes or read the various experimental station bulletins intelligently, for such terms are used freely by the men who have them in charge. Go over these

terms carefully and then file this paper away for reference so that you may refer to it at any time when occasion requires.

AGRICULTURE.

For our purpose agriculture may be stated as being the science of farming, or stated another way the farmer is an agriculturist. What the science of farming may include would tell the whole story, but for our use we may be content with the following division. Plant life, Animal Life and Farm Economics. As we will discuss soils largely in our first two or three lessons we will confine our first definitions of terms largely to that branch of Agriculture.

How many of our boys have noticed a stone where the water had run over it for some time? Did it appear rough or smooth? What caused it? How many have noticed the bank of a creek or stream after a heavy flood? Did it appear smooth or were the sides marked in some way? What caused it? These acts of wearing or nibbling off constitute what is known as ABRASION.

Press a piece of putty or chewing gum against the wall, and leave it there, what prevents it falling? The force that holds it against the wall is known as ADHESION.

Compare the particles of the putty or gum with the particles of the wall. What holds the gum together? Why doesn't it act like a pinch of sugar pressed against the wall? The force which holds the gum together is called COHESION. Take a handful of dry sand and press it against the wall then take a handful of wet clay and do likewise. What is the difference in the results? Why? Take a lamp wick and place one end in a tumbler that is about two thirds full of water leaving the other end hanging over the edge of the glass. What is the result? The action of the water in passing along the wick above the level of the water in the glass is known as capillarity. Take a can and knock both bottom and top out by holding the ends in the fire until the solder is melted. Fill it with dry soil and place one end in a vessel of water letting the water come up on the can only about an inch. Leave it for some time and when you examine it again why has the water crept up to the top of the can and moistened all the soil? Place some water in a vessel and

leave it in the sun for a time. What happens to the water? Why do pools dry up? We hang wet clothes upon a line so the water in them will pass off into the air and they will become dry. The passing of water from a wet surface into the air we call EVAPORATION.

Take a small quantity each of clay sand and leaf mold. What is the difference between them? If we dig up the ground at the bottom of a hollow in the woods where the leaves have gathered and decayed for many years we find the soil there very dark-colored and very porous. It is dark colored because it consists almost entirely of humus, a substance that is always formed where vegetable or animal matter decays in the soil. We shall have occasion to use this word quite frequently in our future lessons, so it will be well to keep it in mind. Put a piece of freshly burned charcoal under water and observe what collects on the surface of the charcoal. What is it? Treat a piece of stone in a similar manner. What is the result. When one substance takes up another it is said to absorb it and the process is known as ABSORPTION.

Take some sugar and place it in water, stirring it thoroughly. What becomes of the sugar? We say that it is dissolved. Now place the solution in the sun and we find that the water will evaporate but the sugar still remains. I mention this experiment because of the fact that SOIL WATER holds mineral substances that act as plant food, in solution and by plant food I mean food necessary to make the plants grow.

Take some well water and some rain water placing each in a separate jar, place some kernels of wheat in each vessel and note results. It will be found that the kernels in the well water will grow for a considerable time, while those in the rain water will die quickly. The well water comes from the soil and has carried plant food with it, while the rain water left the plant food behind in the process of evaporation. The only reason that plants can grow in rain water at all is that the seed contains a small amount of food. When this food is used up the plant will soon starve.

Place upon a table three tumblers, half fill one with flour; another with water, and leave a third containing only air. Push a pencil into each and remove it. Note the difference in the results. What makes this difference? Can you find the surface of the contents in each tumbler? From this experiment we can derive three definitions upon the condition of matter.

1. Matter whose particles are not free to move among themselves is said to be solid—Flour.

2. Matter whose particles are free to move among themselves and which has a definite surface is said to be liquid—Water.

3. Matter whose particles are

free to move among themselves and which has no definite surface is said to be gas—Air.

Take careful note of the above as I shall use them freely later on in the lessons.

Boys, you may have found the lesson rather dry, but the first day at school is always the least interesting, and I promise you that when we take up soils in October that you will have a rare treat. You have been walking upon ground all these years and I doubt if you ever thought of it as being the living which it really is. But we shall see. Boys, don't fail to answer the questions asked. There is a nice book waiting for someone.

Lesson 1—Girls.

As previously mentioned our work will include studies in Domestic Science, sewing, cooking, gardening, the raising of flowers, raising of poultry and economic house-keeping.

One hears, occasionally, this remark from young girls. "I do not know a thing about house work," and the young girl seems to express it with a feeling of pride that she is more of a lady than the girl who knows how to work. To me such a remark is disgusting.

In my estimation the girl who knows how to do the work about the house—the good cook, the neat and systematic housekeeper is the most highly accomplished of girls. She has learned the finest art. It is because the girl does not go at it right if she considers house work drudgery. It is the purpose of this course to make house work interesting as well as gardening and poultry-raising.

At the Winnipeg Exhibition this year the sewing, cooking, and work in Domestic Science exhibited by the school girls of Winnipeg was wonderful. Canada has reason to be proud of this industry among her girls. One little girl had made a complete outfit for a child—dress, petticoats and underwear all neatly made and beautifully embroidered. Another girl had made a bedspread, pillow shows, towels and everything necessary in the line of linen for a bedroom. Another girl had on exhibition a beautiful tablecloth and napkins embroidered and hem-stitched. Then there were dresses for children of all ages. The display was simply a wonderful exhibition of what children can do in the line of sewing. I believe there is not another place on the American Continent that can excel the Canadian children in the art of sewing.

Could not the children throughout the country organize children's clubs for sewing and once a year have a splendid competition for prizes? Your mother would help you I am sure, when she discovers the help her daughter gives her in doing her part of the family sewing. Now think of this dear girls and write me what you think about it.

In regard to the art of cooking. Two women may take the same recipe—one will make a delicious dish out of it—the other a flat failure. Why is it?

Good gardening, too, is an accomplishment. Nourishing garden vegetables make healthful boys and girls and strong men and women. It is interesting to learn about their growth and profitable to distinguish between the good and the bad.

Can our girls tell which is the most nourishing—the carrot or the tomato?

Do you know just when is the best time to pick the different vegetables?

Do you know when some are poisonous?

We shall learn all of this.

Then there is poultry raising—a very important study for girls. It is fascinating to watch the life of poultry.

Can you tell the best hens for laying eggs, the most valuable for selling purposes?

Do you know why some have no success in poultry-keeping while others make money?

Poultry needs careful attention, as well as horses and cattle.

The art of economic housekeeping too, is extremely important.

Do you know why some women are slaves of housework, while others are happily contented.

Do you know why some men are wealthy, while others are poor?

We will solve these problems in this course of study.

This course, I am sure will prove greatly valuable to our wonderful country.

Canada's future depends on her present boys and girls. We want them to be resourceful and practical. Canada is going to be the most splendid country in the whole world—our boys and girls will make it the pride of the British Empire.

The boys and girls of Canada are blest with the best of climatic conditions, the most resourceful in natural advantages, and the most splendid opportunities ever opened in a new country, and above all our boys and girls are the cream of nations from all parts of the world. So let us bear these facts in mind and learn all we can to improve our home, our neighbors and our country.

This is really an introduction to our course. Let me hear from many girls this month about what they think of the introduction of this study in our department.

We will give a prize of a book for the best letter.

Cousin Doris Letters,

Boy's PRIZE LETTER.

Dear Cousin Doris,—As I did not see my last letter in print, I thought I would write again. Last fall my father visited the town of Winnipeg and ordered "The Canadian Thresherman and Farmer" in my name.

My brother runs a 17 H.P. traction engine and a Decker separator. They

also run a saw-mill during the winter months. I live two and one-half miles from our country school. It is a fair sized one. It has two rooms in it. Each room contains about forty-eight desks. My teacher's name is Mr. Geo. A. Mark. He is a very fine teacher. The other teacher's name is Miss Ethel Willows. We own (105) one hundred and five acres of land with about forty-five acres of clearing and the rest is good bush. I am in the junior-third class and will try for the senior third class on the twenty-fourth and twenty-fifth and twenty-eighth of June.

Wishing your club every success, I remain your loving cousin,

DANNIE SUBUCH.
Carlingford, Ont. (Aged 11 years)

GIRL'S PRIZE LETTER.

Dear Cousin Doris,—In this letter to your valuable paper I am going to tell the boys and girls about some of our summer pleasures here.

My sister and I have been taking up our Third class work this year. On July 6th we went to Whitewood a town eighteen miles north of here to write on our examinations. We started at eight o'clock and got in about half-past ten.

We wrote on Literature that afternoon. On Wednesday when we got up it was raining. It stopped though before time to go to school. We had Grammar to write on until half-past eleven. While we were at dinner it began to rain again and kept on raining. We ran nearly all the way to school and our coats were nearly wet through when we got there. We wrote on Physical Science that afternoon.

On Thursday we wrote on Arithmetic in the forenoon and History in the afternoon.

It kept cloudy all day, Thursday and the people were beginning to get anxious for it to clear up because their sports were to take place the next day.

Friday morning we wrote on Euclid. We finished at dinner time that day just in time to take part in the sports that afternoon. It turned out to be a nice day for the sports.

About one o'clock we went to the grounds a short distance from town. There were three booths on the grounds well furnished with refreshments. In one place there was a negro. He had his head sticking through a curtain and people were to try and hit him with eggs. You had three throws for a quarter, and if you hit him you got 50c, and even if you didn't hit him you got a cigar.

In another tent there was a fortune-teller. She was to tell your fortune by looking at the palms of your hands. I did not go in to get mine told.

A number of horse races were run and also a number of foot races including a five mile Marathon race. Three ran in this race, two Indians and a white man. The Indians got the only two prizes given.

I got supper at the boarding house where we had been boarding during the week. After supper we went to see a baseball match between Moosmin and Whitewood. The Moosmin men were the winners.

About half-past eight we then went up to see the performance of "The Girl I Love," by McPhee's Company. The play lasted until about a few minutes after eleven. Between the acts an actor performed a great many feats. He could stand on his head and do a great many things.

Then we started for home as we had no more examinations to write. We got home at half-past one.

During the day the girls went around with tags and rosettes, you paid ten cents for a tag, and fifty for a rosette. The tags were to wear on yourself and the rosettes on your horses. The money was in aid of the Moosomin hospital.

Wishing your paper every success,

I remain,
Your loving cousin,
Kennedy, Sask. MAGGIE F. POTTER.

Dear Cousin Doris,—I am a boy eleven years old. I live on a farm five miles from Lavenham. We have ten horses. My father has been taking "The Canadian Thresherman and Farmer." As this is my first letter to your paper I would like to see it in print. I would like to see some of the boys of the Club to correspond with me, but for them to write first.

I will close, wishing the paper all success,
CLARENCE V. DOBBIN.
Lavenham, Man.

WHEN Jonathan Tinkerby had perfected his invention for making a supercharged carbonated water from the ordinary fluid that flows from a house faucet he was so pleased that he opened a little office on a downtown street. There, in addition to receiving subscription for the stock of the company formed to market the gas-making machine, he gave away as much of the carbonated beverage as people would take.

He did this to show his machine was all that was claimed for it. He said he did not want people to buy stock in the Carbo Water Company with the idea that they were getting a pig in a poke.

"Everything is open and above board," said Mr. Tinkerby.

To prove this he would take a glass, fill it with the clear, sparkling, bubbling water, hand it to the prospective investor, and draw another beaker of the liquid for himself. Together the inventor of the gas machine and the man seeking a chance to place his surplus funds would quaff the sizzling mixture.

"Can you beat it?" Jonathan Tinkerby would ask. "Have another glass, a dozen. No mystery about this. Drink all you want. It's all the same. All charged to the limit with pure carbonic acid gas, and nothing else. Why, man, I can turn, with my machine, ordinary water into this sparkling beverage so cheaply that you could afford to take a bath in it. Fact!"

To prove his assertion Mr. Tinkerby would squirt a stream of the water from a siphon out of the window, to demonstrate the inexpensiveness of the liquid.

The merit of Mr. Tinkerby's invention was in the machine by which the water was charged with gas. He had perfected it after a great deal of work and experimenting. All one had to do was to attach a pipe to the kitchen faucet. Through this the water could be run into a mixer, where it was mingled with the gas.

This came in small tubes under pressure. Then the fluid was passed into a reservoir, to be drawn when needed. It was so simple that it was a wonder no one had thought of it before.

A big saving could be effected on the making of carbonated beverages, and even the rivals of Mr. Tinkerby had to admit that he had a good thing.

It seemed likely to make his fortune, too, for investors were pleased with the simplicity of the affair, and began to subscribe for the stock in large blocks.

Day after day the inventor sat in his little office. While his clerks attended to the distribution of circulars and the making out of stock certificates, Mr. Tinkerby would tell about the wonders of his machine, and how it charged the water with carbonic acid gas.

"This water contains nearly twice as much gas to the cubic inch as any other," Mr. Tinkerby would say.

The Disappearance of Jonathan Tinkerby

By HOWARD R. GARIS.

That was one of his strong arguments.

He would fill a long narrow glass with the sparkling fluid, and show prospective investors how fast the bubbles rose. It was almost like champagne.

Then the inventor would empty a large beaker of the water, inviting his friends to do likewise. In short it seemed that Mr. Tinkerby did nothing but drink the super-charged carbonated water.

One day Mr. Tinkerby had an appointment with Jonas Roger, who wanted to invest \$50,000 in the new company. Mr. Roger called on Mr. Tinkerby in the afternoon with the \$50,000 in cash, for he was rather eccentric and did not like the banks and checks.

He drank some of the water, watched the machine make it and seemed pleased. Mr. Tinkerby was pleased also. He drank several glasses of the carbonated beverage. Then he took Mr. Roger's \$50,000, which was in new crisp bills and prepared to change it into stock certificates.

With the money Mr. Tinkerby walked into a rear room, where his safe was and where the stock certificates were kept. This room, where Mr. Tinkerby's secretary, pretty Miss Ruth Law, sat, opened into a paved courtyard, or airshaft, about which were high walls of glazed brick.

Miss Law remembered afterward that she had noticed her employer step to the rear door for a second, holding the bundle of bills in his hand. Then she saw him no more, for she gave her attention to the typewriting machine, over which she was busy.

Meanwhile Mr. Roger sat in the front office, waiting for the return of Mr. Tinkerby with the stock certificates. The investor slowly sipped a glass of the carbonated water and thought what a good thing it was. Then he grew a little impatient.

Mr. Tinkerby seemed gone a long time. Mr. Roger was in a hurry, for he wanted to catch a train. He wiggled on his chair, and then got up and looked into the rear office. All he saw was the pretty secretary clicking away at her machine.

"Where is Mr. Tinkerby?" asked Mr. Roger.

"Why, didn't he come back to you?" asked Miss Law in some surprise.

"No. I've been sitting in there waiting for him."

"I saw him step to the door a minute and look into the rear," said the stenographer. "Then I didn't notice him again."

With a muttered exclamation Mr.

Roger went into the court. It was all walled up with glazed bricks and paved with tiles. The investor peered all about. There was no sign of Mr. Tinkerby. Indeed, a mouse could not have hidden in the place.

There was not the slightest crack in the bricks nor in the side of the building, which formed one wall of the court and in which structure Mr. Tinkerby had his office. The floor of the court was solid save for a small hole, through which the water ran off when it rained. Unless he had turned himself into a liquid or smoke, Mr. Tinkerby could not have gone down this.

There was no means of scaling the glazed walls, which were twenty feet high. There was no window in the side of the building nearer than fifty feet to the paved floor of the court.

In fact, the place was like a walled dungeon, save that it was open at the top. Three of the sides were formed of the shining tiled bricks, and the fourth by the back of the building.

"This is very strange," said the pretty stenographer, as she gazed out into the court.

"I should think it was!" exclaimed Mr. Roger, as he recalled his \$50,000 which he had last seen in Mr. Tinkerby's hand. "I should think it was young lady. What are we to do?"

"I'm sure I can't say," responded Miss Law. "He had a lot of letters to dictate to me this afternoon and what am I to do about them?"

Mr. Roger muttered something in a low tone.

"It's very strange," said Miss Law again.

Indeed, it was rather a curious happening. One minute Mr. Tinkerby had stood in the rear door of his office looking out into the enclosed court. The next second, when Miss Law had taken her eyes from him an instant, he had disappeared. It was very mysterious. It was startling. To Mr. Roger it was distressing. Where was he to look for his \$50,000?

"We had better notify the police suggested the investor to the pretty stenographer.

"Oh!" she exclaimed, a little frightened.

"Why not?" demanded Mr. Roger. "Isn't that what's done when people disappear mysteriously?"

"Yes, but this is so sudden," objected the girl.

"That's just the reason why the police ought to be told of it at once," snapped Mr. Roger. "Most disappearances are sudden. There are not many gradual ones. People don't go around notifying their friends they're going to dis-

appear, and have a date set, with a band of music to mark the event. Most disappearances are sudden. I'm going to notify an officer. Nothing like getting to work at once on a sudden mystery."

He went out, wearing a worried and puzzled look. He had heard of bunco schemes and green goods swindles before. This must be one of them. That was it! He was up against a swindling game. It was all a put-up job for Mr. Tinkerby to get the money, and, under the pretense of going to a safe to get the stock certificate, run out of the rear door with the cash.

The police could not get to work too quickly to suit Mr. Roger. He hurried down the street and approached an officer, who was leisurely patrolling his beat.

"Come at once, officer," said Mr. Roger.

"This is a strange case for you to solve."

The officer demurred at first, but Mr. Roger was insistent. When the two got back to the court they found Miss Law carefully scanning the shining brick walls as if to find a trace of her employer.

"What's it all about?" demanded the policeman. "Somebody disappeared, eh? Headquarters ought to be told about it. Them things ain't my line. Show me somebody what needs arrestin' an' I'll do it. But I don't see nobody what needs to be took in now. This ain't my kind of work."

Nevertheless he consented, at Mr. Roger's solicitation, to look the court over.

"You say he just stepped to the back door?" asked the bluecoat of Miss Law.

"That's all. The next instant I looked up and missed him, but I supposed he had gone back into the front office."

"And I'll take my oath he never did," interposed Mr. Roger.

"Queer," muttered the officer. "No way out of this court, is there."

"Only by the top," answered the stenographer.

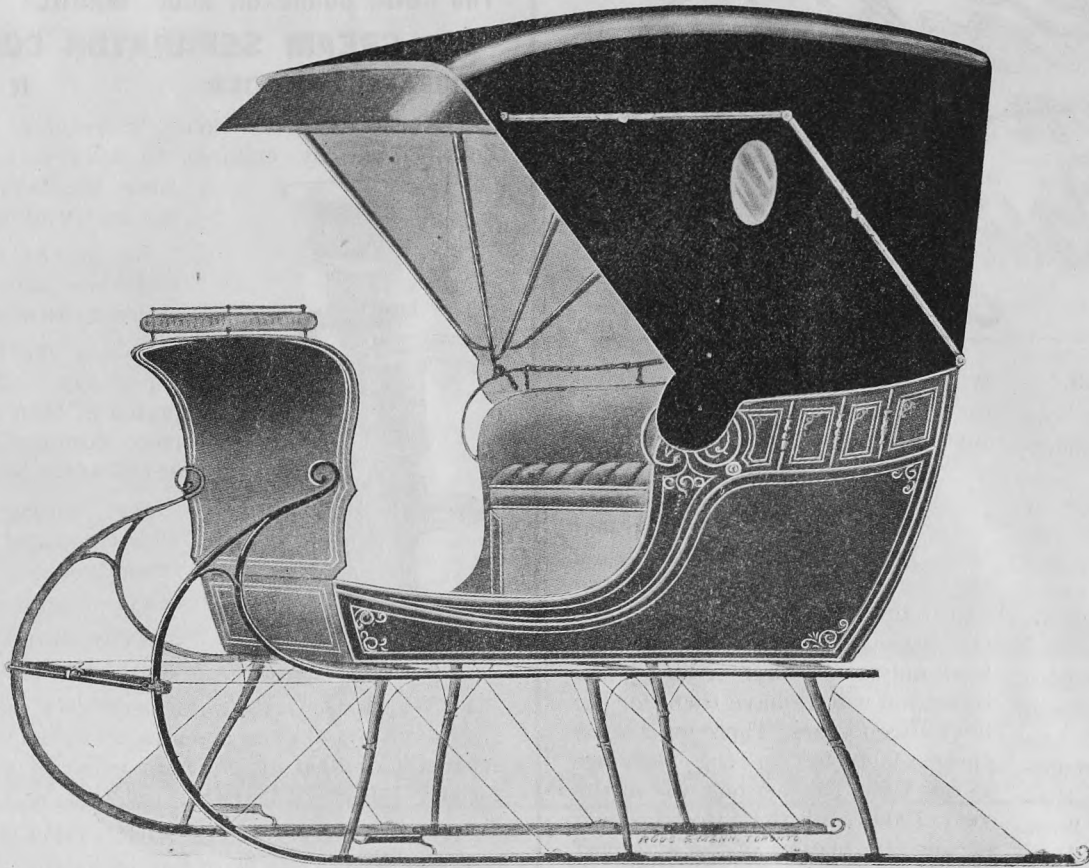
"And it would take a bird to get out that way," commented the officer.

"Or somebody with a balloon," suggested Mr. Roger, suspiciously. "Or, maybe there's a trap door in the pavement."

The officer sounded with his club. Not the least hollow echo rewarded his efforts. Mr. Roger gazed at the expanse of brick wall forming the rear of the building. There was the one window fifty feet up.

"Maybe some one lowered a rope from there and pulled him up," said the investor, offering this as a last desperate means of solving the mystery.

The policeman nodded. He went inside the structure and found the office into which the window opened. It was the private room of the president of the Bankers' Trust Company. The president was in and had been all day. He said, emphatically, that, no one had used

No. 860 $\frac{1}{2}$ —AURORA

A "BLINGER"—You don't know what a "Blinger" is, eh!! Well, we'll tell you—A "Blinger" is a term applied to a particularly fine diamond—one without a flaw—a perfect gem—and that's what the Aurora is—a gem.

We consider it the best little all-round Sleigh in our line. It's just a nice size—neither large nor small—but with plenty of room. We have taken lots of care with this Sleigh; in fact, it's the favorite with our superintendent, with our foremen, and all the men who have a hand in making it; and they all do their level best on Auroras—so, any one who becomes the owner of one will be pleased with his purchase. Our General Agents, see below, carry our full line—Buggies and Sleighs.

Our Sleigh line for 1910 includes all requirements, and we think it's the best line of Sleighs on the market—we've tried to make them so. Look them over and we shall be glad to have your opinion.

CATALOG TO AGENTS ON RECEIPT OF POST CARD REQUEST.

General Agents for the West:

A. C. McRAE, Winnipeg
W. J. BELL, Saskatoon
M. C. DREW, Vancouver

THE BAYNES CARRIAGE CO.
LIMITED
HAMILTON - - - ONT.

a rope to haul any one up from the court to his window. Nor had any one from the windows above done it or he would have noticed it.

"I don't see what else I can do," said the policeman. "Better go to headquarters and have'em send out a general alarm."

Mr. Roger did so. A description of Mr. Tinkerby was sent broadcast, and every policeman in the big city kept a look-out for the head of the Carbo Water Company.

The newspapers got hold of the story, and the mysterious features of the disappearance were made the most of. There were pictures of Mr. Tinkerby, more or less like him and several views and diagrams of the little court.

Several papers got expert masons

and architects to investigate the features of the court with a view to ascertaining whether there might not be some under-ground passage that Mr. Tinkerby might have used.

Other journals had microscopic examinations of the walls made to see if, perhaps, the inventor had left any leather scrapings from his shoes in scrambling up to escape.

The balloon and airship theories were investigated and came to nothing. The rope idea would not hold. Not the slightest clue was obtained.

Mr. Tinkerby's family were in despair. They offered a large reward for his discovery. To this the directors of the Carbo Water Company added a substantial sum.

Enterprising newspapers did likewise. Soon the whole city was talking of the missing man.

The enemies of Mr. Tinkerby and his company were not backward in offering a solution of his disappearance. They said he had evidently carefully selected a time to vanish. It was strange, they said that he never thought of dropping out of sight until Mr. Roger had given the \$50,000.

As for a means of getting out of the walled court, it was hinted that a friend at the window above with a long rope was the first solution of the mystery. These persons and papers did not believe the denial of the president of the Bankers' Trust Company.

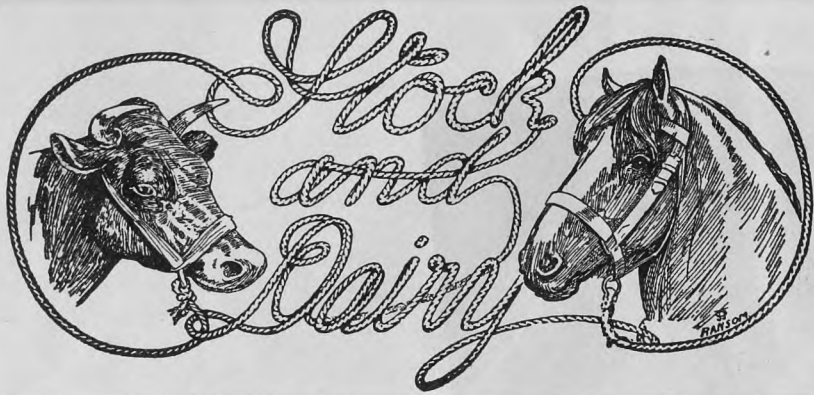
To these insinuations the friends

of the missing inventor returned no answer save a dignified silence. They admitted the affair looked very strange, but, then, they pointed out, this was a day of queer happenings.

Meanwhile matters were at a stand still in the Carbo Water Company. No one but Mr. Tinkerby could properly demonstrate the machine. No one but he could show how good the water was. No one but he could drink so much of the beverage to show what a fine thirst quencher it was.

The days went by, Mr. Roger fretted and fumed about his \$50,000. He started suit against the Carbo Water Company to recover the sum and the action dragged through

(Continued on page 66) 2



Dairying in Saskatchewan.

By W. A. WILSON, Saskatchewan Dairy Commissioner, Regina.

This is the first opportunity I have had of appearing before an audience in Western Ontario, and I can assure you it affords me a great deal of pleasure to be with you at this time. When it was suggested that I should come here for the purpose of attending both conventions in Ontario, there was no hesitation on my part in accepting. We were told last night that we heard to much of the West and not enough of Ontario. Now we have no argument with you in that respect, but I can only say, that although you have heard a great deal of the West in the past you are going to hear more of it in the future; and any one who has an opportunity of visiting the West, will find that the energy and the ability that has been put into the work out there is bound to be followed by results, and the West, is bound to be known throughout the length and breadth of the land. We extend a very cordial invitation to any one who may be travelling through our Province to step off at Regina and look us up at the department of Agriculture, and you

will find we are men like yourselves and willing to give you all the information and help that we can.

We are profiting to a large extent by your experience in the East. We consider that at the present time we stand where you stood thirty years ago. We are the infant dairy Province of the Dominion. Our legislation deals with creamery work only. We have no cheese factories, nor will we have them for the next fifteen years. There were a few cheese factories in the Province at one time, the last one was in the year 1900, and that closed down because the hauling of the milk cost the farmer exactly \$14.50 a ton.

We are also benefited by the experience of the States to the south of us. Ten years ago there were 994 creameries in the State of Iowa; at the present time there are only something over 500; almost 500 of them closed in ten years. Seventy percent of the butter was manufactured in 35 of these creameries, which goes to show there were a great many small creameries in the State, and it is said that in the next ten years that probably 50 per cent. of the now existing creameries will be closed. That is a condition similar to Ontario, because there are many cheese factories and creameries in the Province that are standing examples of mismanagement, over-competition and many others I might mention. There are buildings also that should never have been erected. The success of any business is largely determined by the conditions in which they were started and having that in mind we are endeavoring since Provincial autonomy was granted to pass legislation which would give us control of the work in order that we might lay a good foundation and conduct the work in a proper way. To make successful you must satisfy the farmer and at the present time we are discouraging small factories and we are endeavoring to have manufactured as large a quantity as possible in one creamery. Legislation was passed in 1906, whereby no company or association that contemplated the erecting of a creamery in the Province could build until their plans and specifications were inspected by the Department. The Department will send out plans free of charge to any one. The object of that is to prevent the erection of unsuitable buildings in which it would be inconvenient to make butter. We are looking twenty years ahead, and endeavor-

The 1,000 pound an hour "MAGNET" has REVOLUTIONIZED CREAM SEPARATOR CONSTRUCTION

POWER NOT NEEDED

It is SO EASY TO TURN

The "MAGNET" Cream Separator 1000 lbs. an hour, can be operated by children to take care of the milk of 1000 cows, the dairy farmer with large herds has been waiting for this.



Magnet Cream Separator.

No need for gasoline or steam engines, and does not even require a man—children can operate it.

It has the "MAGNET" square gear construction, the large steel bowl supported at both ends, Magnet brake, one-piece skimmer, easily cleaned, will skim as fast as ten can milk.

Made strong and durable, to outlast your time, and run as well for the next generation.

The "MAGNET" has six sizes in capacity all run by the same driving gear, and fit in the same stand.

F. W. Hodson, Esq., formerly live stock commissioner, says; "I have tested your machine for different sizes and consider your separator of 1000 lbs. an hour capacity excels even the OTHERS for OBVIOUS REASONS."

If you have a LARGE HERD OF COWS, write us, it will not cost you A CENT to learn how easily the "MAGNET" will take care of YOUR MILK.

THE PETRIE MANUFACTURING CO., Ltd.

Head Office and Factory:—HAMILTON, ONTARIO, CANADA

Branches:

Winnipeg, Man.
Regina, Sask.

St. John, N. B.
Vancouver, B. C.

Calgary, Alta.
Montreal, Que.

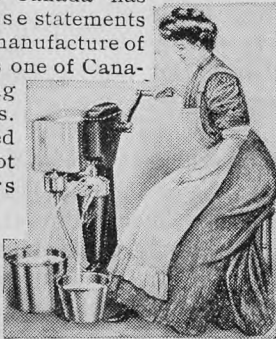
Users Tell

Go right out into Eastern Canada and you'll find farmers actually using more Sharples Dairy Tubular Cream Separators than the three next best combined. Go right out into Western Canada and you'll find four times as many Sharples Dairy Tubular Cream Separators in actual use as the next best machine.

That proves Tubulars are best

An actual canvass of separator users throughout Canada has proved these statements true. The manufacture of Tubulars is one of Canada's leading industries. Sales exceed most, if not all, others combined.

Write for catalog No. 330



THE SHARPLES SEPARATOR CO.
Toronto, Ont. Winnipeg, Man.



ing to avoid that condition which you are now under. Another condition is that no building can be erected until the site and location has been approved by an officer of the department. That is to guard against unsanitary conditions. Another condition deals with the location with respect to the distance from other creameries, and the creameries are operated on the cream-gathering plan, and no factory can be erected within twenty miles of another one without special permission. The Government also made provision for assisting creameries by way of loans, and a loan to amount of \$1,200 is given at the rate of 3 per cent. It is re-payable in 5 years and secured by a first mortgage on the property. Each farmer must sign a form stating how many cows he will keep, and how much milk he is likely to send for six months and unless 400 cows are promised we will not consider the application. By giving them this assistance, and offering them all the advice we can, we keep in very close touch with the work. In 1907, the number of applications received was 37, and only one creamery was built. In order to promote centralization we offer to pay the express charges on all creameries established. That means that the farmer living close to the line of railway or 100 miles away is exactly on the same footing. We adopt the system of weeding out the poor butter makers, and the maker are engaged on the per centage basis. Last

The Ontario Wind Engine & Pump Co.

MAKE A SPECIALTY OF THE

CANADIAN GALVANIZED STEEL AIR MOTOR

With FOUR-POST TRUSSED TOWER

The strongest built, lightest running and most durable mill on the market



Our new line **SIMPLEX & TORONTO GRAIN GRINDERS** and **STEEL FRAME WOOD SAWS** have many points of superiority.

Our **AYLMER WAGGON** and **STOCK SCALE** with three point bearing, will weigh a ton, can be moved anywhere by a child.

Our **TORONTO & AYLMEER LINE OF PUMPS** in iron, wood and double acting styles, are world beaters.

TANKS, in Steel or Wood, Troughs & Basins
B. BELL & SON FEED CUTTERS
HORSE AND TREAD POWERS
EAGLE STEEL LAWN SWINGS

Write for our catalogues—Specify the line you are interested in.

Ontario Wind Engine & Pump Co., Ltd.
WINNIPEG, Man.

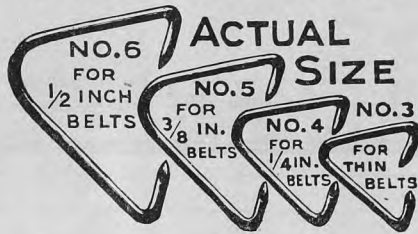
Distributing Houses at Regina, Saskatoon, High River, Wetaskiwin and Edmonton.

SOMETHING NEW for Every Thresherman—CLIPPER BELT LACING OUTFIT

For LEATHER, RUBBER or CANVAS BELTING

Belts Made To Run As Smooth As Endless.

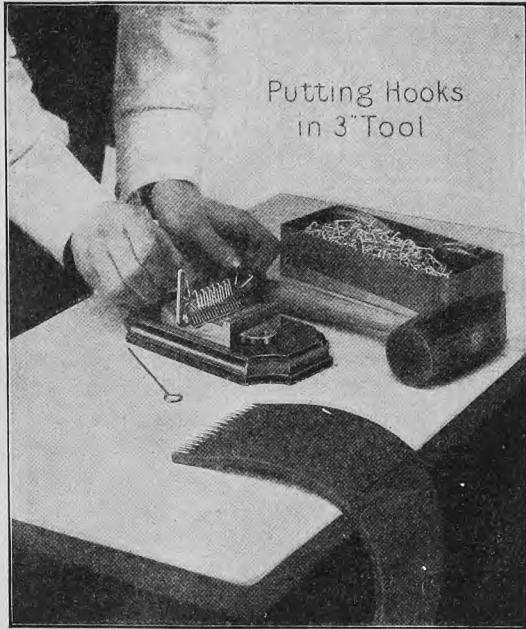
NOTICE THE HOOKS!



Made of special wire.
No cutting of belt half in two as with other makes.
The same tool laces any width or thickness equally well.

Any thresherman purchasing one of these outfits saves time and money. Guaranteed to save 25 per cent. of your belting bills. If your implement dealer does not handle this machine write us direct, and we will be pleased to give you full information as to price, etc. This outfit is done up in neat case, 12 x 8 x 6, containing all tools required and a 1000 each size of hooks, and remember, a boy ten years old can operate it. We would be pleased to have you call at our Warerooms at any time.

SOLE CANADIAN AGENTS



Turn hands of ECCENTRIC PIN upright so that pressure is off, before placing Hooks in slots alternately, long and short ends. Then insert loose pin and turn ECCENTRIC PIN from you until hooks are held firmly in place.



Hammer the Hooks well down into belt with an ordinary hammer on a metal surface. This operation is IMPORTANT. Make final joint after placing belt over pulley or shaft by connecting with Rawhide pin or pulling through Hemp by Wire Threader.

The General Supply Co. of Canada, Ltd. Wood's Western Bldg., Market St. E., Winnipeg

year we paid one man \$190 a month for four months. This year we are paying a salary of \$125 and guaranteeing six months' work. Another advantage in connection with centralization is the reducing the cost, and paying a large price to the patrons.

We have also inserted a clause in our act that any stockholder of a creamery who is not a patron could not receive more than 5 per cent. on his money. We are endeavouring to promote dairying in the districts where the land is adapted to mixed farming, and we are trying to establish the industry on a permanent basis.

Larger Milk Yields are Possible.

Why should cow testing be carried on? Mainly because individual cows in the same herd are likely to vary in production about as much as, sometimes much more than, individual cows in different breeds. Then too must be considered the strange variations in milk and fat from day to day even with a cow handled as carefully as possible. Such variations are very apt to be overlooked unless the record is carefully kept. Another point: two cows side by side, one gives 20 lb. of milk a day, 10 lb. at a milking, the other gives 9 lbs. The difference in Teight, or the difference in bulk in the pail, especially if there is a lot of froth on top, is not easily gauged by the ordinary milker. But multiply that by the 300 days of a milking period, and it is seen that one cow gives 600 lbs. more milk than the other. Yet the ordinary milker would have said, these two cows give "just about" the same. But is not the extra 600 lbs. worth having? Many members of the cow testing associations say that

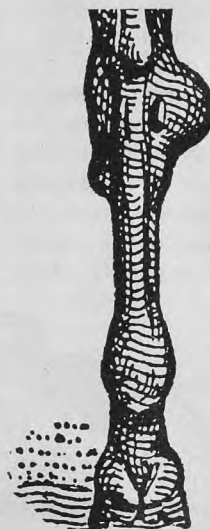
the hired man milks better, with more endeavour to milk clean, if the record hangs before him constantly, and an extra 500 lb. per cow has often been obtained since the introduction of the pencil and ruled sheet. Try it, not simply for the extra milk or fat, but for the immense personal satisfaction in knowing that each cow is being made to do better, to do her best.

New Advertising for Old Line.

Our readers must have noticed something new and original in "publicity" in the advertising of Rex Flintkote Roofing which has appeared in the columns of this journal. J. A. & W. Bird & Co., who have manufactured Rex Flintkote Roofing for many years, go on the principle that the merchant or dealer know a good roofing, and that if he is honest he can advise a customer and so help him to a better choice for his roofing than the customer can make for himself. Now, J. A. & W. Bird & Co., have a high reputation running back for 80 odd years. They deal only with honest dealers who will advise their customers to the customers' best interests. Moreover, they guarantee the dealer's recommendation of Rex Flintkote Roofing.

We note that dealers of reputation in this State and surrounding regions strongly recommend this roofing, and we must say we have never heard any but good words of J. A. & W. Bird & Co., and their goods. We advise looking into "Rex Flintkote" before you close matters on roofing. Send to them for booklets to India St., Boston, Mass.

Put that thought into action. Buy a Nordheimer Piano.



Seldom See

a big knee like this, but your horse may have a bunch or bruise on his Ankle, Hock, Stifle, Knee or Throat.

ABSORBINE

will clean them off without laying the horse up. No blister, no hair gone. \$2.00 per bottle, delivered. Book 8-C, Free.

ABSORBINE, JR., for mankind, \$1.00. Removes Soft Bunches, Cures Varicose Veins, Varicocele, Hydrocele, Ruptured Muscles or Ligaments, Enlarged Glands. Allays Pain. Mfd. only by

W. F. YOUNG, P.D.F., 112 Temple St., Springfield, Mass.

LYMANS, LTD., Montreal, Canadian Agents.

Also furnished by Martin, Bole & Wynne, Winnipeg; The National Drug & Chemical Co., Winnipeg and Calgary; and Henderson Bros. Co., Ltd., Vancouver.

Binder Twine

With the general adoption of automatic harvesters comes the problem of binder twine which, with most farmers, receives too little attention. Twine is a very small item on the farmer's yearly budget of expense, yet it may easily become the cause of a large and expensive total of mishaps and delays. That is, in case it is not good twine.

Just a little knot hid away in a ball of binder twine will catch in the knotter, stop the machine and hold up the harvest while the machine is re-threaded. A few such delays may mean the difference between getting the crop all in to-day and waiting till to-morrow. Waiting is uncertain, for it may rain, or another day's standing may be too much for the grain.

Another fault in twine is unevenness. If it is thick or thin in spots it will not run properly, and some thin spot is sure to break.

We Want Every Rancher, Farmer and Stock-Owner in the Great West to try

DR. WARNOCK'S ULCERKURE

Nearly all the older Ranchers of Alberta have used it for years. The greatest barbed wire cut healing medicine known. Heals all manner of wounds and sores in man or beast.

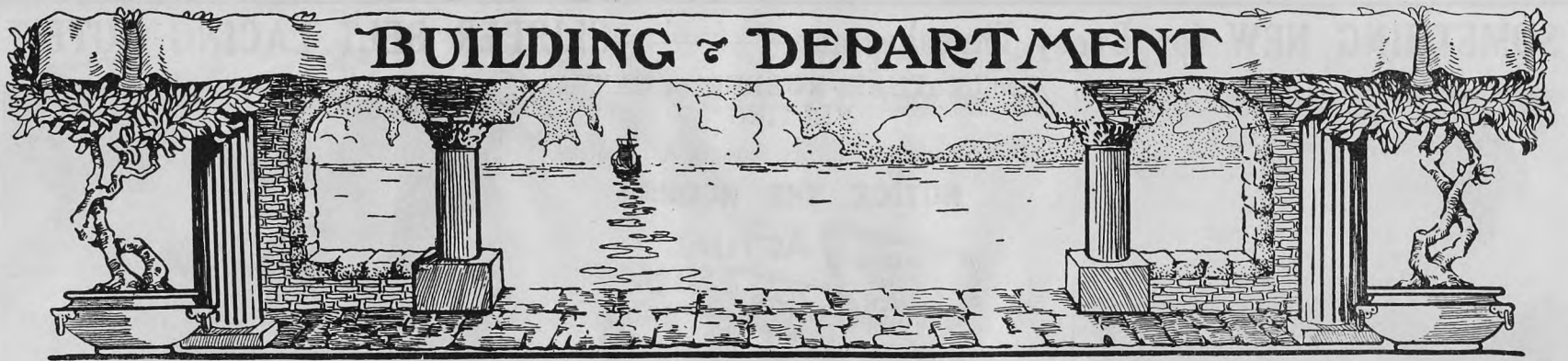
To induce you to try ULCERKURE we will send you a regular \$1 bottle—a 25-cent bottle of Owan's Constipation Tablets and the New Idea Safety Razor, (3 blades) equal to any of the \$5 kinds—all the above for just \$1.00.

Mention the "Thresherman" and your nearest express office. Address—

WESTERN VETERINARY CO.
P.O. Box 2132, WINNIPEG, Can.

The Plymouth Cordage Company, the world's largest rope makers, are now advertising the merits of their binder twine throughout the country. It is already used more largely than any other. While the editorial columns of this paper are not used to exploit any particular article, the twine subject is vital enough to justify farmers in becoming fully posted on the difference between twine and good twine.

BUILDING & DEPARTMENT



A Five Room Cottage.

Five room cottages seem to be the popular kind. I have more inquiry regarding five room cottages than any other size. The one illustrated this month is of this type and one that can be economically built, owing to its compactness. The first story contains a parlor, dining room, bed-room and kitchen, in addition to pantry and closet. The second story has one bed room and an attic. If desired, the space devoted to the attic could be used as another bed-room, which would make three bed-rooms and make a six room cottage, instead of five. The stairway leads direct from kitchen, which is often desirable in this class of house. No basement has been provided, it being the intention to build the house on brick piers. One chimney will be sufficient as it is located near the centre of the house, and stoves can be arranged in parlor, dining room or kitchen. A neat front porch has been arranged and also a small rear porch. The building is 22 ft. wide and 30½ ft. long, and the sizes of rooms are given on the floor plans. The cost of this building will vary, of course, according to location.

Cow Stalls.

The clear-sighted, ambitious breeder or dairyman of the present time will lay quite as much stress upon the influence of surroundings and conditions in the development of the finer characteristics and enduring qualities of a dairy herd as to the more frequently advocated

An Attractive Frame Cottage

The Plans and Specifications for this Cosy Cottage can be had from "The Canadian Thresherman and Farmer" for \$3.00.

advantage to be derived from a superior breed or type of cattle. For an instinctive judgment should unerringly guide him to the certain knowledge that neither breed nor type of undisputed merit could ever make a more than ordinary showing in the hands of a careless or indifferent herdsman, or under discouraging stable conditions. Therefore in his earnest search for hidden or dormant qualities that may add to the value or productiveness of his cattle, he will be obliged to give careful heed to the seemingly trifling details that may serve to govern, even in the slightest degree, the character of off-spring, or the quality and quantity of product. And,

provements, together with a care for perfect sanitation, has led the owner to believe himself justified in looking forward to a substantial monetary reward for his lavish investment, the results may fall far short of his expectations if he does not go still further in his painstaking calculations to secure the greatest possible amount of comfort for the cattle.

The Stanchion.

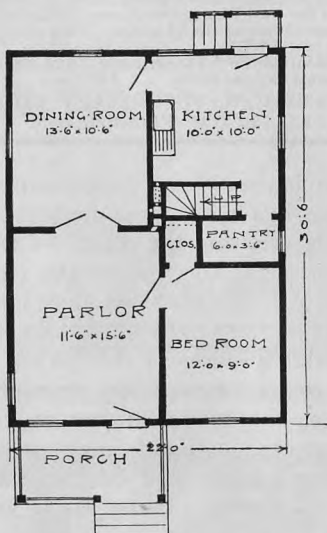
It is scarcely necessary to even mention stanchions in connection with modern cattle fixtures, for the intelligent breeder or dairyman who stops even a moment to take counsel with his better judgment

sympathetic instincts of their owner. And this, too, when down through the ages comes untarnished and still legible the little guide board to man, which bears the significant admonition "A merciful man is merciful to his beast," and while the wording of this proverb has been slightly misquoted, its meaning has in no wise been changed.

And it is not alone the merciful, but the shrewd business man who will quickly recognize the practical advantage to be derived by placing a cow under the most comfortable conditions, and with a little thought all the needful requisites of the owner, in regard to preserving cleanliness, a minimum amount of labor, together with convenient handling of the animals, may be so easily blended with the desirable cattle comfort that one will regard the stanchion in the light of a hideous nightmare and try to forget that it ever existed.

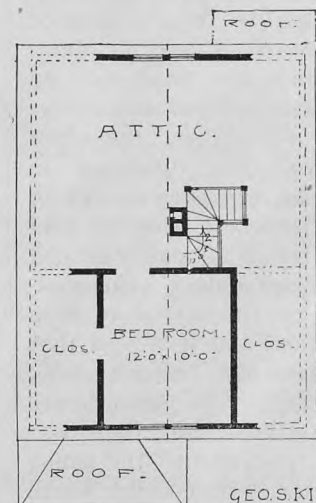
The Comfortable Stall the Best.

The question of securing a commendable cattle stall will be an easy matter if one will give the necessary requirements careful consideration, and by giving the rights of the cow a first place in our calculations it will be no difficult matter to provide a stall that will satisfy all demands the most exacting owner could require. The first requisite for this purpose is clean, dry and ample space, where she may have perfect liberty and control of head, neck, limbs and muscles, and one important reason for this is that when a cow is resting she may lie in a natural position, which will invariably be found to be with her head on her side. And any stall that will insure this freedom of



while he may have read with both interest and profit numerous valuable chapters dilating upon the varied experience and ultimate success of others, he will not rest quite secure in his convictions until his confidence has been founded on actual experience and augmented by a close study of the natural tendencies of the animals comprising his herd. So much printed space and urgent eloquence has been devoted to strenuous appeals for more sunshine and better ventilation in our cow barns, that even the stubborn advocate of "what was good enough for the past is good enough for the present" can no longer find courage or voice to defend unsanitary stabling. The numerous new or thoughtfully renovated barns are a worthy tribute to the steady advancement of wiser and more humane methods in the housing of our stock, yet, even with roomy, well constructed barns, where a diligent research for up-to-date im-

and humane impulse, will unhesitatingly condemn as a relic of barbarian stupidity, if not absolute fiendishness, the rigid stanchion, that, even in this stage of advanced civilization, may sometimes be found in a modern cow barn. There is little excuse for this offence against progression, and, if the man who has thoughtlessly introduced this instrument of torture in his stable will use his powers of observation, it will require but a short space of time to convince him that almost any kind of stall or tie would be preferable to the rigid bars that cannot admit of perfect rest and a reasonable amount of freedom. No one possessed of a compassionate nature can walk down before a line of stanchion fastened cows without feeling a thrill of pity for the creatures that stand hampered like traitorous felons and with mute, appealing eyes proclaim an innocence reflecting on either the wisdom or



GEOS. KINGSLEY, ARCHT.
36 LA SALLE STR.
CHICAGO, ILLS.

movement may be regarded as worthy of consideration.

There are a number of most excellent patent stalls which are intended to supply both comfort for the cattle and satisfaction for the owner. Among them may be mentioned the McLeary, the patent on which is for the hinge to the self-adjusting partition, the Drown and the Bidwell. Either of these stalls will afford clean, dry and comfortable quarters for a dairy cow and the additional cost of fitting up a barn in an approved and humane manner will be trifling when compared with the increased profits that have been derived from such sources of improvements.

The Cement Floor.

While the sanitary features of a cement floor may make a strong argument in favor of its adoption, any one of a reasoning mind must quickly discover its defects and as promptly reject it as a proper base for a desirable cow stall, and even if the entire barn floor be composed, of this unyielding and cold material the platform on which the cattle stand or lie should be protected by a thick layer of some porous substance between it and the bedding. A covering of boards will in a measure, prove a remedy, or rather a preventive to the rheumatic ills and serious udder troubles that may arise from a cow being compelled to rest upon a floor of this kind. Some valuable experiments along this line have recently been made by one of the conductors of our Institute force, which will at least furnish material for earnest thought, and may cause an owner to hesitate before placing the health and welfare of his cattle at stake.

The Feeding Facilities.

A half inch slope will be quite sufficient to insure the necessary drainage and, even with so slight a decline, the bedding should always be carefully arranged so that all breeding stock may lie on a level surface, or with the weight of the body falling towards the shoulders. The stall with the individual feed box is to be given preference over the continuous feed trough for one reason; the proper amount of food may be fed without danger of a greedy companion satisfying her own appetite with a part of the ration designed for her neighbor. The stretching and pushing that is often acquired in this pernicious habit will result not only in unsightly swollen and calloused knees for the cows, but will prove a source of great annoyance to the systematic herdsman who wishes to keep a careful account of the kind and quality of food consumed by each animal.

The cow stall and its necessary adjuncts is one of the most important features to be considered in fitting up a modern dairy barn,

where a herd is kept with the laudable object of developing the highest quality of excellence in the cattle and the maximum amount of profit for the owner.

Stable Sanitation.

It would be an easy matter to find evidences that the question of stable sanitation has been badly ignored, and, in some features, entirely misunderstood by the masses of milk producers.

In case we were to inspect a promiscuous lot of 20 stables, we might find a few that have fair ventilation, plenty of light, white-washed walls and ceilings, sanitary floors, an absence of strong odors, and where clean cows are kept.

In most of the stables, however, we would find the ventilation very faulty, not enough light, cob webs and dust over-head; in some we would find leaky, rotten floors, putrid soil underneath, strong odors and cows plastered with dung.


Milk produced under such conditions does not belong in the same class with milk that comes from clean cows which are kept in a sanitary, healthful stable.

The man who works in a tannery becomes so accustomed to the odor connected therewith that he fails to notice it. In a like manner, the man who daily works in a filthy stable may not appreciate the odors that prevail therein.

Contamination of Stable Air.

An experiment is recorded that throws some light on this subject.

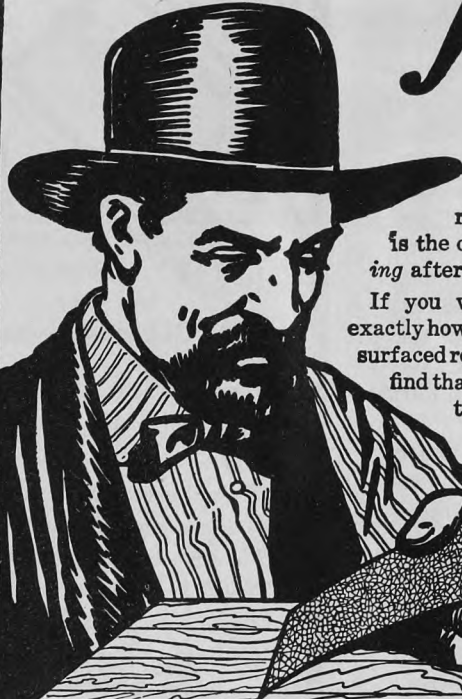
The weight was kept of the food and water consumed by a steer weighing 1,600 pounds, also the weight of the solid and liquid manure voided



**SEND FOR A
FREE SAMPLE**

Amatite

ROOFING



IF you will write to-day for a free sample of Amatite, the end of your roofing troubles is in sight. It is the one roofing that needs no painting after it is once laid on the roof.

If you would sit down and figure out exactly how much it cost to paint a smooth surfaced roofing during its life, you would find that the cost of this paint is more than the roofing itself.

Amatite, on the other hand, has

a real mineral surface, and we sell the goods on the broad statement that it *needs no painting of any kind.*

The man who puts Amatite on his buildings is insured against leaks and trouble for many years to come.

Send name and address for a sample and booklet, which will prove conclusively how much better Amatite is than the old-fashioned "rubber roofings" which require constant painting and care to keep them tight.

THE PATERSON MANUFACTURING CO. LIMITED

Toronto	Montreal	Winnipeg
Vancouver	St John, N.B.	Halifax, N.S.



**"ACORN
QUALITY"
Corrugated
Sheets**

ROOFING and SIDING

If Roofing or Siding

Your buildings, you can save a lot of money if you use

"Acorn Quality" CORRUGATED SHEETS

You need only 25 per cent. of the sheeting required by any other roofing or siding, and you can effect a great saving in carpenter's expense.

"ACORN QUALITY" CORRUGATED SHEETS

Are guaranteed to stand the British Government Acid Test. They are heavily coated with Silesian Zink and are proof against rust, pinholes and decay (never leaks and never will). The corrugations are pressed by very heavy uniform machines and are perfectly true, insuring an absolutely weather and water proof structure.

If interested in metal siding or roofing, write for Booklet "Truth About Roofing." Send post card to-day.

CLARE & BROCKEST

251 Princess St., Winnipeg.

See the Results of a Want Ad.

W. J. W. writes from Saskatoon as follows:
"I advertised for an engineer through 'The Canadian Thresherman and Farmer' Want column last year and got 37 applications from engineers. From this list I picked a first-class man."

YOUR ROOF

Learn About Paroid Roofing-- Read the facts, then decide

Every year, you're learning how to raise a little more corn to the acre—or oats—or hay. At 40, a man farms better than at 20. That's progressive experience.

Now, we've had a long, progressive experience in making roofing—over 25 years—much more experience than any other roofing manufacturer to-day. So we've learned a lot of things others have yet to find out.

PAROID ROOFING

We've learned how to make the PAROID felt right, because we make it in our own mills. Other manufacturers buy their felt from first one mill, then another—wherever they can get it cheapest. We have the most up-to-date felt mill in the country, equipped with special felting machinery.

We have designed our own saturating and coating machines—have our own special formula for making our waterproof compound—the result of years of experiment and test. This gives the most pliable, smoothest-surfaced, longest-lasting roofing on the market.

Proslate Roofing

is made to meet the demand for a colored roofing where architectural effect is desired. We use our regular finished PAROID as a base and add an extra weatherproof deep red colored coating by a separate process.

The ornamental edge gives the effect of stained shingles or slate.

Especially designed for residences, bungalows, club houses and fine farm buildings.

Neponset Red Rope Roofing

has been the standard low cost roofing for twenty-five years. Costs about the same as tarred felts and other cheap roofings, but lasts three or four times as long. Contains no tar, clean to handle, easy to lay.

OUR GUARANTEE is that we will replace every square foot of roofing that proves to be of defective manufacture. If a stronger guarantee than this could be made we would make it.

We also make the celebrated NEPONSET WATERPROOF BUILDING PAPER and FLORIAN SOUND DEADENING FELT for dwellings.

Free Books

To the Man Who is Going to Build. Tell us the kind of building or repairing you are planning and we will send you the right book with samples of our products and all of our building suggestions free. Be sure to write us—our advice may save you a costly mistake.

Dealers everywhere sell our roofings.

F. W. BIRD & SON, Makers,

Established 1817.

Dept. 46 Hamilton, Ont.

Branch Office, Winnipeg, Man.

DOMINION EXPRESS CO.

MONEY ORDERS, FOREIGN DRAFTS
and TRAVELERS' CHEQUES

Issued in

Dollars, Pounds Sterling, Francs,
Gulden, Kroken, Krokor, Lire, Marks,
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PAYABLE ALL OVER THE WORLD.

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and the gain in the weight of the steer. The weight of said voidings plus the gain in weight of the steer proved to be 49 pounds less in 24 hours than the weight of food and water consumed.

It was presumed that these 49 pounds of food and water were discharged mostly from the lungs in the form of moisture and carbonic acid gas; nearly half of it being converted into carbonic acid gas.

When one animal will discharge so large an amount of impurities, we must include that, with a stable full of live stock, the constant discharge of impurities amounts to considerable. To this must be added the odor arising from the dung and, possibly, from a decaying floor and foul soil underneath.

Upon reflection, it becomes at once apparent that if the stable air is to be kept comparatively pure, it must be kept rapidly changing, inasmuch as the carbonic acid gas is poisonous, it is not fit to be breathed again, being heavier than air, it settles to the bottom. The coldest air also settles. In the upper layer we find the heat and the best air in the stable.

Ventilation.

The system of ventilation in use in many stables is an opening in the ceiling with everything else closed in cold weather. That system does not remove the foulest, coldest air; it does not provide good circulation; it does remove the best air and the heat.

The only thing well done by this system lies in its demonstration of the ignorance of the masses on stable ventilation.

Good Ventilation.

We should aim to have the stable air as fresh as possible, yet sufficiently warm. Cows will not yield milk profitably if they are obliged to shiver from cold.

This best system is the King system of ventilation, the principal features of which are that it removes the lower layer of air, but does not permit the warm air to flow out. In a well constructed stable, this insures a rapid change of air without unduly lowering the temperature.

Outlet flues are built tight, usually of lumber, beginning eight or ten inches from the floor and extending higher than the peak of the roof, to insure a good draft at all times. When made of metal, ice is liable to form on the inner walls. One such flue is sufficient for a small stable, but the average stable would probably be better served with two ventilators some distance apart, while a very large stable should have more than two.

The proper capacity of the outlet flues is determined by the total weight of all the live stock in the stable, figuring one square foot of cross section inside for each 5,000 pounds of live stock. For instance, if the stock weighs about 20,000 pounds, four square feet would be required, which could be furnished by one ventilator two feet square inside,

WITH EVERY ROLL
of
CONGO
Roofing



THIS
GUARANTEE BOND
FULLY PROTECTS YOU

LOTS of manufacturers are keen to tell you what their goods are made of. They give you a beautiful word picture of a marvelous and mysterious "gum" that only they can produce. Others tell you of the real "rubber" that they use—and so on.

Regarding Congo Roofing, we have only two statements to make:

FIRST—We believe it is the *best* ready roofing made.

SECOND—Because we believe that, we give a *genuine Surety Bond* with every roll, which guarantees three-ply Congo for 10 years.

These bonds are issued by the *National Surety Company*, and they are as good as a government bond.

No other roofing manufacturer *dare* give such a guarantee.

You take no chances when you buy Congo.

There is no "gum" in it to make it sticky; there is no rubber in it to get brittle. It is made of the best roofing materials that it is possible for us to purchase under the best manufacturing conditions. Because it is made right, it gives such satisfactory service that we are not afraid to issue a *Guarantee Bond* to back up every statement we make.

Ask any other manufacturer for a *Real Bond* and see him squirm.

Booklet and samples of Congo free on request.

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THE HIGHEST GRADE ON THE MARKET.

The Empire Brands are damp proof, fire proof, and vermin proof, and are specified on all up-to-date construction.

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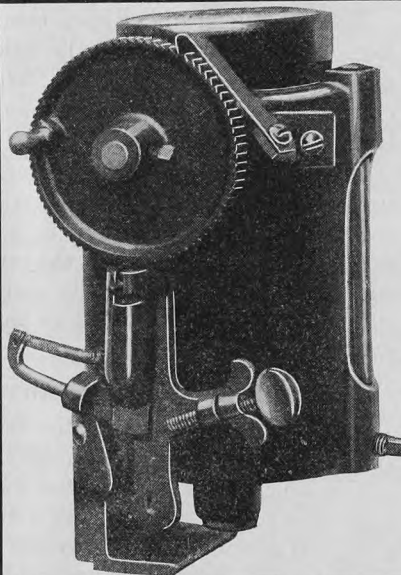
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The Dickey Automatic Sight Feed Oil Pump

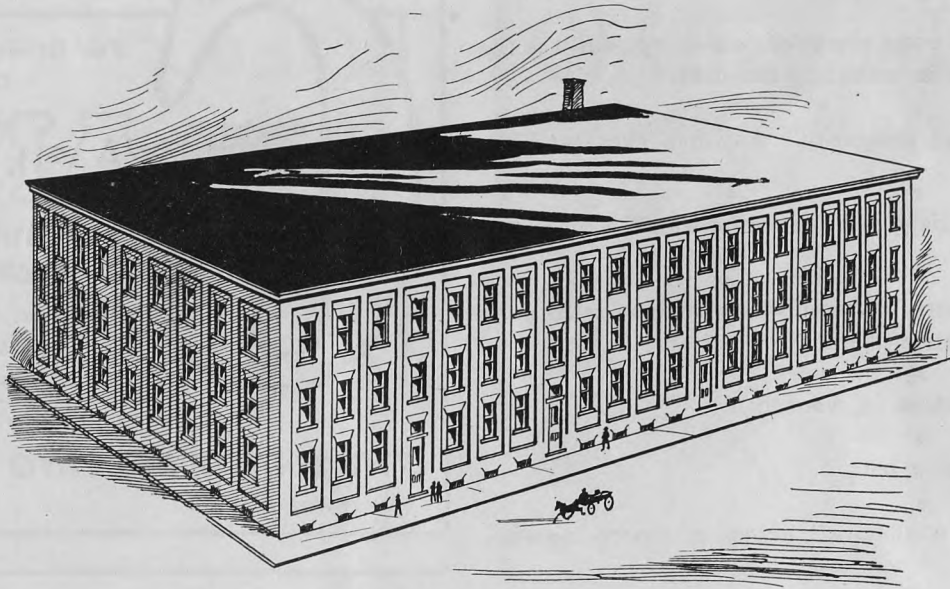
It has no equal. It works accurately under all conditions. It will take care of your engine and save you the annoyance of delay and repair bills. The Dickey oil pump will please you. Write us at once for catalogue and prices.

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COLUMBUS, IND.

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Dealers Desire and Purchasers Demand



New Addition now being
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McLaughlin Carriage Co.
Limited
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Size, 175 x 65 ft,
3 stories and basement

in larger volume than ever before Vehicles of **McLaughlin Quality**, not those "Just as good," but those having the genuine **McLaughlin Name Plate**. We propose to supply the demand. This new addition will ensure prompt deliveries to all McLaughlin Agents of

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McLAUGHLIN CARRIAGE CO., LIMITED

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or by two flues each 12 by 24 inches inside. Each flue should be provided with a slide, for regulating flow of air when there is a very strong wind. The lower layer of air at every part of the stable should have the opportunity to flow along the floor to a ventilator.

Outlet flues may be placed where they are the least in the way. If such a flue happens to be placed close beside a cow, she should be protected from draft by a partition several feet high and as long as the cow is.

Inlet Flues.

Fresh air is admitted through the small flues at the walls which compel the air to travel upward about four feet, after which it is delivered at the top of the stable, where it meets the heat and becomes warmed. This arrangement prevents the warm air from flowing out, inasmuch as it will not travel downwards against the colder, heavier air outside. These inlet flues are usually four to five inches in diameter and are distributed on two or more sides of the building, say one every 10 or 20 feet. I think some of these inlet flues should be extended so that they will deliver air right over the cows, or over the center of the stable. This would insure a more perfect circulation. These inlet flues are, in my opinion, not of very great importance, but I would urge every dairyman to install the outlet flues as soon as convenient and follow directions closely.

Do Not Waste The Heat.

Heat in a stable represents food so during the winter we cannot afford to waste heat. It should be utilized to the fullest extent possible in warming fresh air. It should not be permitted to flow, leak or be conducted out. That means tight ceiling, tight walls, preferable with one or more dead air spaces or some other good insulation.

Light and Disinfection.

Sunlight doesn't cost anything, so we should not deny it to cows. The amount of window space recommended by the United States Department of Agriculture is six square feet per cow. Windows should be long, placed vertically, most of them preferably on the south and east sides where they are protected from the coldest winds.

Whitewash is a most effective, inexpensive agent of sanitation and should be used about twice each year on ceiling walls and fixtures. It can be best and most conveniently applied with a spray pump.

Floor.

The plank floor, as commonly laid during the greater part of its lifetime permits liquids to leak through into the soil, which becomes foul from which gasses rise upwards into the stable. As a rule it is a decidedly unsanitary floor. Whenever a new floor is to be laid, cement concrete should be used by all means. Then there will be no leaking and no decay. The platform where cows

stand should be covered with a one inch board floor. The pitch of the platform should be one inch from manger to gutter. The size of the gutter according to some of our most progressive dairymen should be eight inches deep by 20 inches wide. Other good dairymen maintain that it is not necessary to have it so big.

The walk back of the gutter may be lower than the platform. It should slope towards the gutter and it should have a rough surface to prevent slipperiness.

The inner surface of the manger should be very smooth to facilitate cleaning.

Common decency, as well as the law, requires that cows shall be kept clean. It is not expected that farmers will spend much time cleaning cows. The owners of clean cows do not. The sensible thing is to arrange the stalls so that cows cannot get filthy and on this point some farmers will be obliged to do some studying, otherwise they may get into trouble.

The proper thing is to have each cow lined up to the gutter. To accomplish this, the mangers, or gutter, may be made on the bias in order to provide stalls of various lengths. For instance: the stall at one end of the row may be six inches longer than the stall at the other end. The cows may then be placed in stalls that nearly fit them. The fit can be made perfect by using an adjustable fastener. We cannot change the length of the cow, so we should make the stall fit her. Besides that, to be

comfortable, the cow must be free to move her head sideways. The rigid stanchion does not permit this freedom, so the cow should not be subjected to the punishment of being fastened half of her lifetime with such a device. As a matter of course, a box stall should be available at calving time.

The sprinkling of land plaster behind cows daily, as practiced by some of the most successful dairymen, tends to hold the ammonia in the manure, thereby preserving the fertility and also lessening the contamination of the stable air.

Where horses and calves are kept in the same building with cows, it is an advantage to have them partitioned off.

Where manure is kept in the barnyard, it should, if possible, be piled up some distance away from the barn so that cows do not need to wade through it.

Having provided sanitary, healthful, comfortable quarters, such as every cow owner ought to have, the cows should not be left too long outside on winter days. The stable keeps the cows warm and the cows keep the stable warm; they cannot do it if left outside too long.

Have you heard the new Hornless Gramophones at Nordheimer's, 313 Portage Ave?

Willie—Papa, if I was twins would you buy the other boy a banana, too? Papa—Certainly, my son. Willie—Papa, you aint surely going to cheat me out of another banana just because I'm all in one piece?

Just Chaff

It may be true that the world owes every fellow a living, but it is the fellow who hustles that succeeds in collecting the debt.

* * * * *

It takes a wise man to stand prosperity. Any fool can stand adversity—he has to.

* * * * *

When a man finds that marriage is a failure he wants it all put in his wife's name.

* * * * *

A good way to make allowance for your wife's cooking is to do it weekly and then make the allowance liberal.

* * * * *

An amendment to a constitution—a wooden leg.

* * * * *

The proper thing in trousers—a man.

* * * * *

The smallest hair "throws a shadow" across a man's appetite when he finds it in the butter.

* * * * *

A bump of destructiveness—a railway collision.

* * * * *

Economy is a mighty good fault in the family, but it does not include cutting the ball-room dresses below the danger line.

* * * * *

The strongest thing about a pole cat is its breath.

* * * * *

A man's head is apt to feel light when he has a heavy load on.

* * * * *

A rope often gets tight because that is the way it is taut.

* * * * *

About the first thing a shoemaker uses is the last.

* * * * *

Next to the hotel waiter the ostrich runs a close second on tips.

* * * * *

Photographers are charitable. They are always anxious to take the best views of mankind.

* * * * *

When you see a crow with a king bird after him you have an example of a dull speaker and a lively listener.

* * * * *

Two ways of making a living: working for it and working others for it.

* * * * *

The wisdom of a great man resembles a hole in a dough nut, when the small boy begins to ask him questions.

* * * * *

Everything comes to those who wait and don't die too soon.

* * * * *

Where there is a will there is always an heir.

* * * * *

Some men are so crooked they have to have a cork screw to take their measure.

* * * * *

Some men are born small, others shrink.

* * * * *

The original rib roast recorded is when Eve scolded Adam for peaching about the apple deal.

* * * * *

White lies are simply the other kind sugar-coated.

* * * * *

Alimony—Taxation without representation.

* * * * *

When a man is soured on women it is a sure sign that one has used him for a door mat.

* * * * *

All men have money to burn when they pay their coal bills or cigar bills.

* * * * *

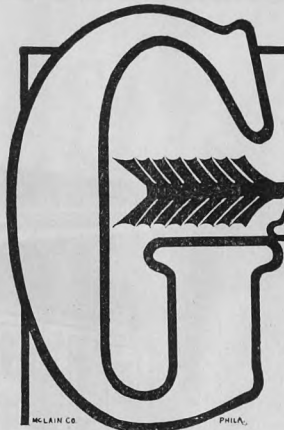
Those who wait for something to turn up should consult the grave digger.

* * * * *

A dollar watch gives the boy the time of his life.

* * * * *

The woman who brags about her husband's ability to mend his own clothes is about on a par with the man who brags about his mother's cooking.




For Driving, Elevating and Conveying

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RED STITCHED COTTON
DUCK BELTING is

Durable and Economical
 $\frac{1}{3}$ Cost of Leather
25% Cheaper than Rubber



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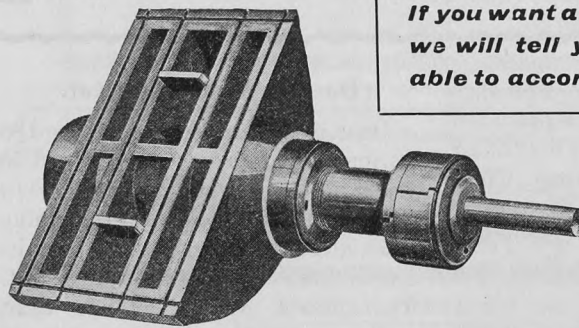
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Do You want to Save Money on Fuel, Water & Oil
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Do You want your Engine to run quietly, handle
easier, and last longer
Do You want to get away from all Valve Trouble

?



If you want all this, write and we will tell you how we are able to accomplish it for you.

Our Catalog describes fully, and we will send it to any interested Thresherman for the asking.

THE BAKER VALVE CO.
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English and American guns, both double and single barrel, and in all gauges and weights. Prices range from \$5.00 upwards.



LOADED SHELLS. We load these ourselves and have supplied them to H. R. H. The Prince of Wales, Earl Grey and Lord Minto, as well as to thousands of Western Sportsmen. Ask your local dealer for our "Prince of Wales" loaded shells and if he will not supply you, write us direct for quotations. We make special prices for quantities. We also handle all the Standard factory loaded shells.

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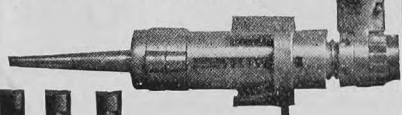
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The only combination ever invented where the ratchet will work the screw feed, expand and do the cutting. No monkey wrench used as is done with the imitation style. Don't forget the Handy Combination Tool. Twelve in one. The Farmer's Work Shop.

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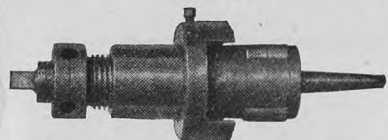
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Phone 69 Phone 2677

If you want the Best Flue Expander

when you are busy, to stop a leak or replace a flue, get

A TEDDY



Price of 2 in. Expander - \$5.00

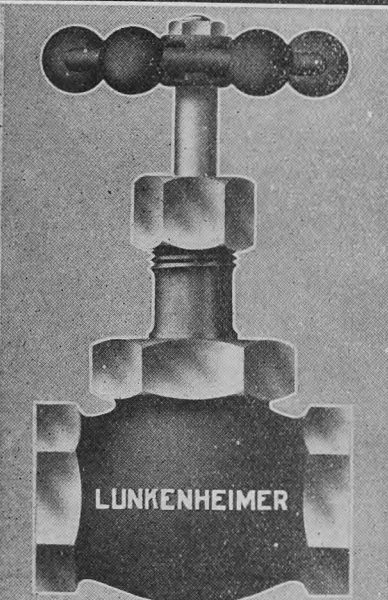
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MANSFIELD OHIO

Satisfaction is what you get with every

Lunkenheimer Regrinding Valve.

The smallest detail is given careful consideration, making the valve as a whole the most durable and practical obtainable. Remember, that not only can the seat bearings be reground, but the disc can be renewed.



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An Up-to-Date College.

Highland Park College, Des Moines, Iowa, has just completed another successful school year. President Longwell has just written us that the attendance for the school year 1908-1909 reached 2461 different students. He also sent us a copy of the graduating program in which we find there were 246 graduates from all departments of the school. These figures show a remarkable record, and when it is remembered that Highland Park College is independent and has never had a dollar of appropriation from the state or any individual, it will be seen that the record is unique.

Over \$800,000 has been invested in buildings and grounds. There are nine large college buildings and the camps and surroundings are said to be the most beautiful to be found in connection with any institution of learning in the country.

The institution was founded nineteen years ago, and President Longwell has been at the head all this time and has managed it through such a successful issue.

The institution maintains one of the finest colleges of Liberal Arts and Normal Schools in the country. Graduates from the Classical, Scientific, and Normal Courses receive state certificates in Iowa without examination. The school is classed in the A Class Colleges in Iowa and graduates receive the same credit as they receive from the State Institutions of Iowa. The institution also maintains thoroughly equipped Engineering and Pharmacy Schools. The machine shops at Highland Park College are the most completely equipped machine shops to be found in connection with any engineering school in the United States, and the College of Pharmacy is known to be one of the largest and best equipped Colleges of Pharmacy in the country. Besides these there is the College of Commerce which includes the Business Department, the Shorthand and Typewriting Department and the College of Telegraphy.

These schools are just as complete schools as schools of this kind can be made. In addition to these, they have one of the largest and best equipped Colleges of Oratory in the West, and the College of Music is in all probability the best equipped College of Music west of Chicago. There are eighteen teachers in the College of Music alone. The Institution also maintains a standard College of Law, and their Correspondence School is one of the largest in the country. President Longwell stated that there are 7600 students taking work by correspondence.

The editor of this paper knows personally of the high standing of Highland Park College, and can heartily recommend it to all students as a first class college of learning. President Longwell will be glad to send a catalogue free to anyone writing for it.

Chicago Injectors

SIMPLE DURABLE RELIABLE



The Chicago Automatic Injector, as here illustrated, was developed and perfected to meet the demand for an automatic injector which would successfully operate under the severe conditions found in traction engineering.

It is the result of twenty-four years of constant effort to produce an injector that would not only do the work perfectly, but would not wear itself out in doing it. Our large experience in this line proved to us that the highly sensitive and delicate machines used in many instances for traction engine purposes were not only inadequate but positively dangerous. We therefore have labored to produce a mechanism upon new lines following a new principle and ever holding to that one idea—simplicity. In the Chicago Automatic we have reached our ideal. It is the simplest automatic injector on the market, consisting of but three tubes, the body or shell, one check valve and a bushing, all these parts are held in place by screw-threaded joints, and cannot drop out and become lost.

Owing to its extreme simplicity it is more easily cleaned than any other automatic injector. This is of most vital importance to users of traction engines. No possible mechanism can be devised to thoroughly strain the dirty and roilly water which a thresherman must use in his work. This dirt must finally work its way to the injector and cause trouble. Then it is that the Chicago Automatic Injector is most fully appreciated.

A Chicago Automatic Injector will outwear and outlast any similar device and is a source of comfort and profit to its owner.

We invite critical examination at all times

Write for Catalogue

The Ohio Injector Company

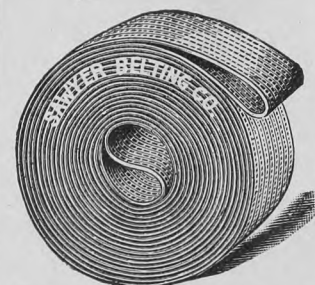
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Amount of Insurance in force Dec. 31st 1907 - - - - \$20,355,303.00
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THE NUMBER OF FARMERS INSURED DECEMBER 31ST, 1907, 16,316.

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Authorized Capital, \$500,000.00.

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Via Port Arthur or Duluth, Northern Navigation and Grand Trunk Railway in one or both directions, or one way Lakes and the other through Chicago, St. Paul & Duluth.

Service unsurpassed and excellent connections all the way.

Full particulars as to new stop-over points, rates, limits and reservations, may be had on application.

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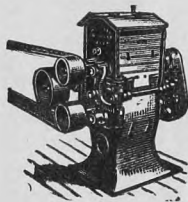
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Traction Engine Practice teaches student how to line up, fire under load, clean boilers, engine driving, etc. College furnishes four traction engines for student practice.

Shop Work teaches pupils how to forge and temper chisels, make welds, babbitt bearings, set and repair flues, repair machinery, test boilers, put in stay bolts, grind and set valves, etc. Not a short lecture course, but a three-months' course, where a student is taught to do the work himself. Correspondence course if desired. Send for catalog.

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Used the world over by engineers and threshermen.

Delivers oil in any position at the first stroke.

Spouts detachable and interchangeable.

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MADE BY A MASTER GERHARD HEINTZMAN PIANOS

The artist who buys a violin depends more on the name of the maker than on his own judgment. He will pay thousands for an instrument by a renowned maker, when he could buy for hundreds an instrument that to him seems as good. Why?

We can explain and apply this fact to the piano.

Lindsay's
284 PORTAGE AVE. WINNIPEG

The Care and Operation of Tillage Machinery

(Continued from page 34)

any advantage. When the wheels strike any obstacle they are inclined to raise the disk over it, while the disk without wheels will cut through it unless it is a stone or something solid.

We have now considered the different kinds of disks, the different work that is to be done, and the different parts of the disk, and we should therefore be able to draw a conclusion of what we would consider if we were going to purchase a disk. These might be considered as follows:—

1. Ease of operation, and amount of draft required for work being done.

2. Length of time disk is likely to last.

3. Work done on different kinds of soils, especially rough or sticky soils.

4. Evenness provided: distance from harrow, above or below tongue.

5. Tongueless or with tongue.

6. Weight on horses necks.

7. Kind of disk blades.

8. No. of disk blades in each gang.

9. Size of disk blades.

10. Curvature of blades.

11. Outward or inward throw.

12. Angle at which the gangs can be set.

13. Freedom of movement up and down on each end of gangs.

14. Quality of steel in disk blades.

15. One or two lever disk.

16. Kind of bearings.

17. Weight of harrow.

18. Manner in which the lock nut fastens the disk blades together.

19. Weight box provided.

20. Means provided for oiling, and also for keeping dirt out of the oil cups.

21. Kind of scrapers, stationary or moveable.

22. Width between scrapers and disk blades when scrapers are thrown out of gear.

23. Width between disk blades and scraper frame.

24. Quality and kind of material in general.

Space will not permit further discussion of the harrows, but in conclusion, it is advised that their use be practical more liberally throughout Western Canada. It is not uncommon in this vast country to see hundreds of acres of crop diminished one third in yield just by the lack of harrowing. Even if the land is plowed properly, without harrowing it is unfit for the seed to be sown on. Rough unharrowed land leaves the soil in a condition so that the wind will dry it out and capillary action drain the soil of its moisture, thereby leaving the seed unprotected from the weather, and no means of extending its roots in search of food. Weeds that have been just recently plowed under can also regain their former condition much more easily on rough ground than they can on

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Five
Roses

and

Use

Harvest
Queen
Flour



Lake of the Woods Milling Co.



This is a photo of a disc harrow which was invented by Fred A. Rodgers, of Glen Ewen, Sask. The main point of this disc is that it does not ridge the land although it cuts all of the ground. Another feature is the dust-proof box on each independent disc. There is absolutely no weight on the horses' necks. This machine has been tried and tested on new and old land and works perfectly. It can be seen at work on the inventor's own farm, three miles north of Glen Ewen.

For further particulars address

FRED. A. RODGERS, GLEN EWEN, SASK.

The Liverpool and London and Globe Insurance Co.

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HAY TOOLS
of all kinds. Write for Circulars and Prices.
Myers Stayon Flexible Door Hangers
with steel roller bearings, easy to push and to pull, cannot be thrown off the track—hence its name—“Stayon.” Write for descriptive circular and prices. Exclusive agency given to right party who will buy in quantity.
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OR PAIN KILLER FOR THE HUMAN BODY
Gombault's Caustic Balsam
IT HAS NO EQUAL
For the Human Body
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We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.
Perfectly Safe and Reliable Remedy for
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Chest Cold
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Neuralgia
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and
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land that is harrowed down smooth. The harrow is an implement devised to cover a great deal of ground in a short time, and if used in the right time will do this successfully, but if not used when it should be is a failure. Therefore it is an advantage to the average western farmer to practice more liberal use of the harrow, and use it when the soil needs it.

Ignition.

(Continued from page 39)

can either be done by varying the position of the driving pinion or the position of a soft iron shield between the armature and the pole of the magneto.

These direct systems of ignition are rapidly gaining favor, though relatively expensive by reason of their remaining constant, the only necessary condition to such constancy being the maintenance of the permanent magnets forming the field. Provided these magnets be skilfully made of suitable steel they are not at all liable to change in strength. This I have personally demonstrated by testing a magnet over a period of two years without detecting any change whatever.

Striking While the Iron is Hot.

Little Ralph, an only child of four, had been permitted to stay up one evening when his parents had company. At the table he made a quaint remark, at which all the guests laughed. He instantly saw that he had made a hit, and with commendable enterprise sought to follow it up.

“Dad,” he shouted, “what was that other smart thing I said yesterday?”

You are invited to visit our new gramophone parlors. Victor, Edison, Columbia and Hornless Gramophones.—The Nordheimer Piano & Music Co., Ltd., 313 Portage Ave.

A Steady Thing.

Something had gone amiss with Bobbie and he had sought the comfort of tears. Noticing his wet cheeks, his mother said in a consolatory tone:

“Come here, dear, and let me wipe your eyes.”

“Tain't no use, muver,” returned Bobbie with a little choke; “I've doin' to ky again in a minute!”

Love's Wage

Love wore a suit of hoden gray, And toiled within the fields all day. Love wielded pick and carried pack, And bent to heavy loads the back. Though meager fed and sorely flashed, The only wage Love ever asked, A child's wan face to kiss at night, A woman's smile by candle light.

—MARGARET E. SANGSTER.

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Lindsay's
284 PORTAGE AVE. WINNIPEG

The Disappearance of Jonathan Tinkerby.

(Continued from page 55.)

the courts. Miss Law came to the office every day, but there was little for her to do. Three weeks had passed since Mr. Tinkerby had disappeared.

Mr. Roger called often at the office to ask Miss Law if there was any news. He only did it as a sort of forlorn hope. When told that nothing had happened to throw the light on the affair, he would sigh, in memory of his \$50,000, and gaze silently into the paved court, which had last held the bodily presence of Jonathan Tinkerby.

One afternoon, while sitting thus, looking into the deserted court, and listening to the clinking of Miss Law's typewriter, Mr. Roger was conscious of a sort of shadow in the air above him.

He thought little of it at first so engrossed was he with the regretful memory of his lost \$50,000. Then he was suddenly startled as the feet and legs of a man dangled before his eyes, seeming to drop down from the sky.

Slowly the limbs lengthened out, and, as Mr. Roger raised his eyes, something fearful of what he might behold, he saw, floating downward from the airy nothingness that formed the roof of the court the body of Jonathan Tinkerby.

"Merciful heavens!" cried Mr. Roger.

Miss Law came running to the rear door, and gazed into the court just as Mr. Tinkerby's knees came on a level with the top of the lintel. She screamed and promptly fainted away.

Slowly Mr. Tinkerby floated down until his feet were about a yard from the pavement of the court. There he seemed to stick.

"Would you mind giving me your hand?" said the floating man to Mr. Roger.

As if in a dream Mr. Roger extended his fingers and grasped the palm of the inventor.

"Pull me down," said Mr. Tinkerby, smiling in a reassuring manner, "I find I can float earthward no farther. Thank you; you are very kind."

Mr. Tinkerby's feet touched the pavement. He seemed to be like one of the toy gas balloons that have lost half their buoyancy, and he evinced a desire to bound about with the lightness of a cork.

"If you don't mind, just keep hold of me for a few minutes," said Mr. Tinkerby to Mr. Roger. "This will soon pass over."

Mr. Roger, with wonder staring from his eyes, placed a detaining hand on Mr. Tinkerby's shoulders. Then the inventor noted that the inventor held in his hand the \$50,000 which it was supposed were gone for ever.

"What—where—when?" exclaimed Mr. Roger as soon as he could find his tongue. Then he reached out and made a grab for the money.



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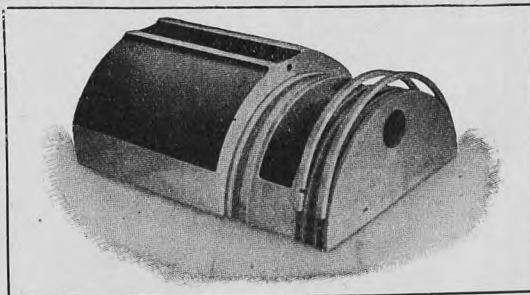
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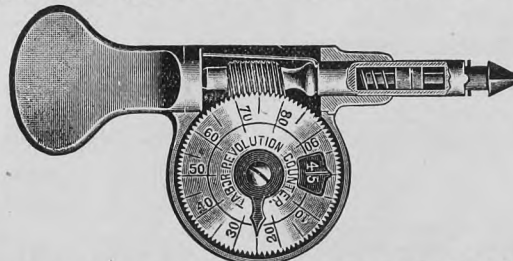
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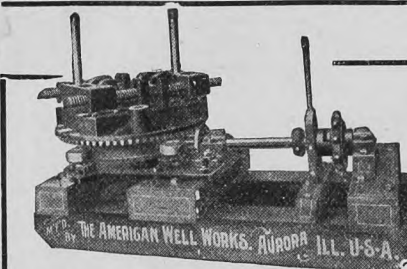
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The Canadian Thresherman and Farmer

"Don't you want the stock?" asked Mr. Tinkerby.

"I—I," began Mr. Roger, and then he removed his hand from Mr. Tinkerby's shoulder.

"Don't! Don't do that!" cried the inventor. "I'm liable to float away again! Hold me down!"

Mr. Roger grabbed him in time to prevent his feet from leaving the ground. He held the inventor firmly a few minutes.

"That will do; thank you," said Mr. Tinkerby. "It has passed over; I am safe now."

"Where in the world have you been?" Mr. Roger found voice to ask.

"It's rather a long story," was the answer. "As I haven't had anything to eat in sometime, I'd rather sit down and get a bite before I relate the yarn. That is, if it's all the same to you, Mr. Roger."

"Oh, certainly," said the investor his courage returning now that he had his money back.

"Well," said the inventor, "you remember I took your \$50,000 and was about to put it in the safe and bring you the stock certificates. Something prompted me to step out into the courtyard for a breath of air. No sooner had I done so than I felt myself being lifted up as though I was attached to a balloon or airship.

"At first I thought some one in the office window above was playing a trick. I imagined they had let down a rope and were pulling me up.

"Up and up I kept going," continued Mr. Tinkerby. "By glancing aloft I could see I was not being hauled by anything visible.

"I kept on rising. I was like a little airship. I guess I must have gone up a mile. I could see the earth dropping away below me and notice the buildings getting smaller and smaller. I was afraid I'd keep right on until I hit the clouds, but I stopped a little below them.

"And there I was floating in the air, without any power to come down. As soon as I found myself not going up any farther I began to be afraid the reverse motion would set in, and I was alarmed lest I fall. I knew that would be worse; especially the stopping part. But I needn't have worried about that, for I didn't go down an inch. There I was, suspended without strings, wires or any visible means of support."

"Say!" burst out Mr. Roger. "For the love of common sense tell us what made you sail away like that."

Mr. Tinkerby looked around to see if any one was listening. The inventor leaned over and whispered in Mr. Roger's ear:

"Carbonic acid gas!"

"Carbonic acid gas?"

"Don't tell any one," cautioned Mr. Tinkerby, "for you see it might hurt the company if it was generally known. But the truth of it is that I drank so much of my patent carbonated water, and it contains so much gas in so small a quantity

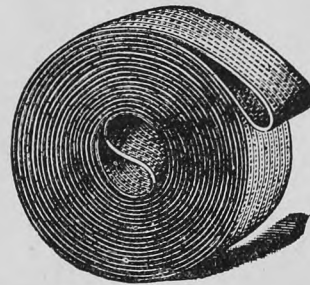


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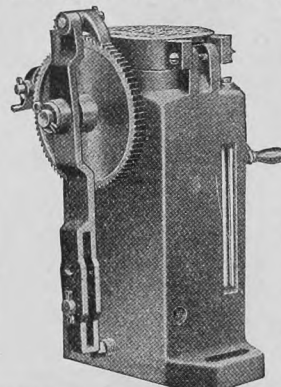


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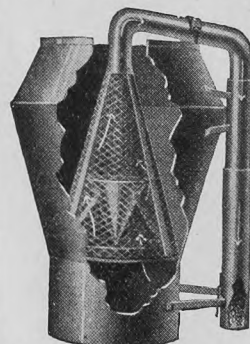
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of the liquid, that I became a human balloon."

"And you've been up in the air all this while we've been searching for you?"

"That's where I was."

"Why didn't you come down before?"

"Couldn't," said Mr. Tinkerby shortly. "Tried the best I knew how. Wiggled my feet, whirled around and even made an effort to turn somersault. There I was, stuck. Every time the wind blew I'd float a little to one side. It made me mad, I tell you, not to be able to do as I wanted to."

"To make a long story short, I've been up in the air ever since. I didn't seem to be hungry at all I suppose because of the rarefied air and the gas inside of me. I wasn't cold, for the weather was warm I was very comfortable, except for wondering if I'd ever get down. I went to sleep while standing up, and say, the upper atmosphere for a bed, beats feathers all to pieces. I don't know when I've spent a better or more healthful three weeks."

"How did you manage to get back to the earth?" asked Mr. Roger.

"The gas must have gradually become dissipated from my system," replied the inventor. "The first I knew I felt myself beginning to descend some time last night. I came down as easily as I went up, only more slowly. I'm glad to get back to earth."

"And we are glad to see you," spoke Mr. Roger, as he thought of his \$50,000.

"You understand now why I wanted you to hold me when I arrived," went on Mr. Tinkerby. "However, I am sure that the accident that occurred to me was due to drinking too much carbonated water. Hereafter I will limit my consumption to ten glasses a day."

"I think it would be wise," remarked Mr. Roger.

A Word from Alberta.

(Continued from page 45b)

always wants bigger measure and a few dollars discount into the bargain, then squeeze him as hard as you can, and don't let his future threshing be any object, for he will give it to the first one that comes anyway.

Hoping that this will not be lost on the minds of some who are, perhaps, unwisely deciding to become threshers, and wishing all the brotherhood a first class season the coming fall, I will close by thanking the editor in anticipation for so much space in our leading journal.

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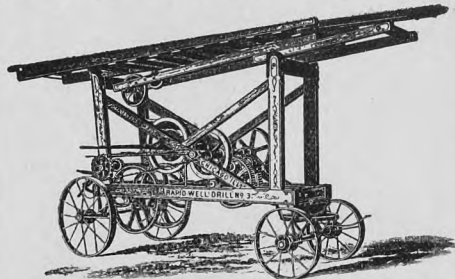
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WANTED—A good Engineer to run engine in threshing season, also separator man. Address—G. Santo, Bender, Sask.

ENGINEER—Wants position on engine for threshing season, references furnished.—E. C. C. 479 William Ave. Winnipeg.

WANTED—Separatorman wants position. Experienced.—A. L. Bege, Ft. Francis, Ont.

WANTED—For coming season first class separator man to run Reeves separator one that can repair and a good hustler. None other need apply. State wage expected. Apply to Y. E. Campkin, Indian Head, Sask.

WANTED—Thorough practical traction engineer for threshing season of 1909. Wages \$5.00 per day. Satisfaction must be guaranteed. Applk to Thos. Park, Harding P.O., Manitoba.

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WANTED—Engineer and separator tender to run my 25 H.P. Northwest Outfit this fall. None but first-class man need apply—Box 52, Granum, Alta.

WANTED—Position as engineer in Manitoba, for threshing season 1909, ten years experience; four seasons in Manitoba. Can do my own repairing; am the holder of a certificate for Ontario. Apply stating wages to—ALFRED T. ADAIR, Black Bank, Ontario.

WANTED—Position as traction engineer this fall. Threshing by man of several year's practical experience with different makes of traction engines, both in the States, also in Canada. Thoroughly competent to run either engine or separator but engine preferred. Have final certificate for engineer for Saskatchewan. Correspondence invited.—JOSEPH W. POLLEY, Elbow, Sask.

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WANTED—Position as stationary or traction engineer, traction preferred. Five years practical experience, also hold diploma from The Heath School of Traction Engineering. Strictly temperate. Age 25. References.—ERNEST A. WILSON, Gladstone, Man.

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WANTED—Position as engineer on steam plowing outfit, will guarantee satisfaction. Have seven years' experience on steam. Apply at once, stating wages, to W. G. GUTHRIE, Argyle P.O., Man.

WANTED—Position as fireman on plowing outfit for the coming season. I have a third class engineer's certificate, but want to fire one season. Am young and strictly sober. Wages wanted \$2.50 per day. Write to HARRY CAMPBELL, Maryfield, Sask.

WANTED—One good Hart-Parr plowing engine. State price and terms.—Jos. PANTEL, Somerset, Man.

SECOND-CLASS ENGINEER wants position on stationary or plowing engine for the summer. Can do own repairing. Double engine preferred. All answered. Best of references.—CRANDELL BEAMISH, Onoway, Alta.

WANTED—Young man wants position as fire man on steam plowing outfit, seven years' experience in engineering shops. Provisional certificate.—T. H. EMERSON, Saskatoon, Sask.

WANTED—Position on plowing outfit for coming season, as engineer, by young engineer. Do not mind hard work, good on repairs.—Apply WM. LUKER South Qu'Appelle, Sask.

WANTED—Position on plowing engine for this season, and also through the threshing season. Sixteen years experience with engines in Manitoba. State wages for plowing and threshing.—A. BRADSHAW, Lost River, Sask.

STEAM PLOWMAN wanting an engineer should write H. J. Nelson, Lipton, Sask. Machine shop experience, sober and steady. Final certificate for Saskatchewan. Position in stationary plant would be welcome.

WANTED—Position in Man. or Sask. as Engineer on Steam Plowing Engine. Eight years' experience. Can give Reference.—L.L., care of "The Canadian Thresherman and Farmer," Winnipeg, Man.

SOUTH-AFRICAN SCRIP FOR SALE—Cash and terms with good acceptable security to farmers in Alberta and Saskatchewan.—Address A. D. MABRY, Saskatoon, Sask.

ONE R.R. FIREMAN can learn locomotive firing for \$20.00 cash. Write to G. S. GUDMUNDSON, Frances, Man.

ENGINEER—Four years threshing experience, wants job running threshing engine in Manitoba. Write, R. C. Crigan, Carievale, Sask.

YOUNG ENGINEER wants position on a threshing rig as engineer during fall of 1909. Has had several years experience round a threshing rig, also a graduate of the Heath School of Traction Engineering. Chas. McMain, Summerberry, Sask.

VALUABLE—Farm for sale at a bargain if bought at once. All necessary buildings new. Excellent location. Creek at stable, eighty acres under cultivation, rest pasture, good fences, near Regina, Saskatchewan. For further particulars, write A. K., c. o. M. W. KAPEL, Pilot Butte, Sask.

WANTED—Position on steam plowing engine, as engineer for season of 1909. Would be willing to continue through threshing season. Manitoba preferred. Five years' experience.—GEORGE MERRIT, 375 William Ave., Winnipeg.

WANTED—A man with strong engine to saw half million ft. of lumber with my portable mill.—R. B. WILSON, Dugald, Man.

FOR SALE—South-African Scrip. Two years' terms to farmers with acceptable security.—ROMERIL-FOWLIE & Co., Prince Albert, Sask.

WANTED—Position on plowing engine for summer. Third-class certificate, references.—MALCOLM McLEAN, Brookside, Sask.

WANTED—Position on steam plowing engine, as engineer for season of 1909. Would be willing to continue through threshing season. Manitoba preferred. Five years' experience.—GEORGE MERRIT, 375 William Ave., Winnipeg.

ENGINEER—Five years' steam plowing experience, desires position with plowing or grading outfit, season 1909.

Will take engine through threshing season. Long contract desired.—G. H. M., 375 William Ave., Winnipeg.

FOR SALE—One Avery Steam Plow, 1906 make, with ten breaker and stubble bottoms and steam lift complete, at Elm Creek, Manitoba. For further information address—WALTER M. GRIMES, Nokomis, Ill., U.S.A.

WANTED—Second-hand Cockshutt engine gang plow, 8 or 10 furrows. Quote lowest price. F.O.B., railway.—Jas. W. MITCHELL, Arrow River Man.

WANTED—Position as engineer. Young and strictly temperate, holder of diploma from the Heath School of Traction Engineering, also had considerable experience, and can furnish references. State wages and make of engine. Address—Andrew L. Johnston, Killarney, Man.

WANTED—Position as fireman on threshing outfit. Wages \$2.50 per day. Norman Woolley, Medicine Hat, Alta.

FOR SALE

One 15 H.P. Case Traction Engine with or without 28x50 separator. For sale or exchange with a Gasoline Traction Engine.—William Brayshaw, Kellie P.O. Man

FOR SALE

One 36x56 Great West Separator with feeder and wind stacker. This separator has been run for 20 days last fall and is practically as good as new. Address: A. Forath, Raymore, Sask., G.T.P.R.

BARGAINS

Give these bargains your attention.
4 Case Portable Engines at \$1,500; 2 Minneapolis Tractors \$600, 18 and 20 H.P.; 1 Advance Traction \$600.

1 Case 20 H.P. Traction Engine \$800.00.
Several good separators to suit the above engines. See our farmers Pet separator.
All our engines fitted with Gould Balance valves.

Write us about them.

THE GEO. WHITE & SONS CO. LTD.
BRANDON MAN.

FOR SALE

Second Hand Thoroughly Rebuilt and Tested Machinery

One 32 H.P. Simple Traction Case Engine.
Two 25 H.P. Simple Traction Case Engine.
One 20 H.P. Simple Traction Case Engine.
Two 15 H.P. Simple Traction Case Engine.
One 20 H.P. Simple Portable Case Engine.
One 15 H.P. Simple Portable Case Engine.
Ode 40x62 Case Steel Separator
One 36x58 Case Steel Separator
One 32x54 Case Steel Separator
One 28x50 Case Steel Separator
One 40x62 Case Wood Separator
One 36x58 Case Wood Separator
One 28x50 Case Wood Separator

The above Separators are all equipped with wind stackers, feeders and weighers.

J. I. CASE THRESHING MACHINE CO.
REGINA SASK.

FOR SALE

Two Rebuilt Threshing Outfits:

22 H.P. Port Huron Compound Traction Engine No. 5057, equipped with steel gearing and all plowing attachment.

36x60 Port Huron Rusher Separator No. 6569, with all attachments.

Price F.O.B. Winnipeg, Man. for full outfit \$2 500.00

21 H.P. Port Huron Compound Traction Engine No. 5203, steel gearing, all plowing attachments.

36x60 Port Huron Rusher Separator No. 6680 with all attachments.

Price F.O.B. Winnipeg, Man., for full outfit \$2 300.00

These outfits have been thoroughly rebuilt, painted and varnished, and ready for immediate shipment.

We guarantee them the same as we do new machinery. Write

CANADIAN PORT HURON COMPANY LTD.
WINNIPEG MAN.

FOR SALE

SECOND HAND AND REBUILT MACHINERY.

Two 25 H.P. Simple J. I. Case engines.
One 15 H.P. Simple J. I. Case engine.
One 15 H.P. Compound J. I. Case engine.
One 32 x 54 Wood Case separator.
One 28 x 50 Steel Case separator with wind stacker, shelf feeder and weigher.

J. I. CASE THRESHING MACHINE CO.,
Calgary, Alberta

FOR SALE

One 25 h. p. direct flue, simple, heavy gear traction engine.

One 21 h. p. compound, return flue, traction engine.

One 18 h. p. simple, return flue traction engine, and one 25 h. p. compound, return flue traction engine.

Also several others of our own and other makes. We also have several rebuilt separators of our own and other makes.

GAAR-SCOTT & CO., WINNIPEG.

FOR SALE

At bargains. Second-hand engines and separators, or complete outfits. Thoroughly rebuilt and repainted. Good as new. A long list to select from. Write us your wants or come and see us.—American-Abell Engine & Thresher Co., Ltd., Winnipeg, Canada.

BARGAINS

One 20 h. p. Brandon engine, portable, which has been run but a short time and is in good order. This can be purchased at a bargain.

One 15 h. p. portable Case engine, has been run four seasons, is now being put in good repair, thoroughly overhauled and will be almost in as good shape as new. This can be purchased cheap.

One 25 h. p. single cylinder Avery engine. This engine has been run about 60 days. Is practically as good as new. In fact it would take an expert to tell that it had been used at all. Another bargain

One 42 x 64 Avery separator complete with feeder, high weigher and J. B. windstacker. This has been thoroughly repaired and repainted and is just about as good as new. Will make a very low price on this.

We have some other goods not quite ready to list, and if any of the above is not what you want write us anyway, and we are sure we can furnish you something.

HAUG BROS. & NELLERMOE,
WINNIPEG.

DO YOU NEED ENGINES AND THRESHING MACHINES?

Write us for terms on the following—all rebuilt.

1—16 H. Simple Portable Stevens, & Burns engine	\$ 250.00
1—22 H. Simple Traction White engine, straw burner	900.00
1—25 H. Simple Traction Minneapolis engine, straw burner	950.00
1—12 H. Simple Portable Case engine	No. 15471 700.00
1—15 H. Simple Portable Case engine	No. 15833 800.00
1—20 H. Simple Portable Case engine	No. 15214 900.00
1—9 H. Simple Traction Case engine	No. 16516 1100.00
1—12 H. Comp. Traction Case engine	No. 15214 1250.00
1—15 H. Comp. Portable Case engine	No. 10944 1350.00
1—20 H. Simple Traction Case Engine	1500.00
1—25 H. Simple Traction Case Engine	1800.00
1—32 H. Simple Traction Case engine	2500.00
1—8 Bbl. Engine Tender	60.00
2—12 Bbl. Mounted Steel Tanks	each 75.00

We have rebuilt steel separators in 28-50, 36-58, 40-62, and wood in 28-46, 28-50, 32-54, 36-58, and 40-62 with wind stackers, self feeders, and weighers to suit.

A letter will be answered promptly. These goods can be seen at our warehouses Notre Dame Street East.

J. I. CASE THRESHING MACHINE CO.
WINNIPEG MAN.

BARGAINS IN SELF-FEEDERS

You will be able to make a noise that sounds like you had saved at least FIFTY DOLLARS, if you get busy.

One thirty-two inch Hawkeye.
One thirty-six inch Hawkeye.
One thirty-two inch Ruth.
Two forty inch Parsons.
Two forty inch Hawkeys.

These feeders have not been rebuilt or made over, it is simply a case of your being benefitted by the other fellow's "bad luck." Do not delay writing us. This is the first time in our history we have been able to make an offer of this kind, and they will last about as long as a snowball in H—alifax.

PARSONS-HAWKEYE MANUFACTURING CO.,
WINNIPEG.

FOR SALE

We offer the following second-hand rebuilt Machinery for sale:

Two 34 H.P. Northwest cross compound heavy traction, plowing and threshing engines.

One 28 H.P. Northwest cross compound heavy traction plowing and threshing engine.

One 34 H.P. Northwest cross compound traction engine.

Two 25 H.P. Northwest simple traction engines.

One 20 H.P. Northwest simple traction engine.

One 25 H.P. Northwest new giant return flue traction engine.

One 20 H.P. Northwest New Giant return flue traction engine.

One 18 H.P. Northwest New Giant return flue portable engine.

One 25 H.P. Case simple traction engine.

One 15 H.P. Case compound traction engine.

One 17 H.P. Sawyer & Massey return flue portable engine.

One, size 36 x 56 Northwest separator with wind stacker.

One, size 36 x 60 Northwest separator with wind stacker, feeder and Perfection weigher.

One, size 40 x 64 Northwest separator with wind stacker, feeder and Perfection weigher.

One, size 44 x 68 Northwest separator with wind stacker, feeder and Perfection weigher.

Two 4-bottom Moline steam plowing gangs (nearly new).

We also have some other second-hand machinery. This stock can be seen at our warehouse, Brandon, Manitoba, and is rebuilt and practically good as new, especially the Northwest, and is offered at extremely low prices.

Expenses of purchasers will be allowed to those who visit us and buy.

NORTHWEST THRESHER CO., BRANDON, MANITOBA.

FOR SALE

THE ROBERT BELL ENGINE AND THRESHER CO.—REBUILT LIST.

One 36 x 56 Battle Creek Advance, with feeder and wind stacker.

One 36 x 60 Monarch separator, with wind stacker.

One 36 x 54 Hamburg separator.

One 36 x 60 Peerless separator, with feeder and wind stacker.

One 40 x 60 Case separator, with feeder and Jones stacker.

One 28 x 50 Case separator, with feeder and wind stacker, almost new.

One 32 x 54 Port Huron separator, with wind stacker.

One 32 x 46 Minneapolis separator.

One 27 H.P. Bell compound traction.

One 22 H.P. Bell compound traction.

One 25 H.P. Case compound traction.

One 20 H.P. Case compound traction.

One 17 H.P. Sawyer-Massey traction.

One 20 H.P. Brandon Machine Works portable.

One 18 H.P. Hamburg portable.

One 18 H.P. American-Abell portable.

One 20 H.P. Flour City gasoline portable.

There are other second-hand machines in stock, which can be put in working order with very little expense. Write for particulars and prices.

THE ROBT. BELL ENGINE AND THRESHER CO., LTD., Winnipeg Man.

FOR SALE

20 H.P. J. I. Case Simple Traction Engine, run 75 days. J. I. Case 32x54 separator with feeder and blower, weighing bagger, 150 ft. 8 in. drive belt, 1 steel tank, and 1 wood tank and caboose. Easy terms of payment. Reference Harrison Bros., Holmfeld. Apply to—Hendry Blackwell, junr. Holmfeld, Man.

WESTERN CANADIAN IMPLEMENT DIRECTORY

EXPLANATION.—First find the Implement Wanted and the Number opposite will be the Number of the Concern in the first column that handles it.

A—ALBERTA PORT HURON CO., Calgary, Alta.	
1—AMERICAN-ABELL ENGINE & THRESHER CO., Winnipeg, Regina, Calgary and Edmonton.	
2—AMERICAN SEEDING MACHINE CO., Winnipeg.	
3—BAILEY SUPPLY CO., Winnipeg.	
4—BEEMAN & CO., Winnipeg.	
5—BELL ROBT., ENGINE & THRESHER CO., Winnipeg.	
6—BRANDON MACHINE WORKS, Brandon.	
7—BRANDON PUMP & WINDMILL WORKS, Brandon.	
8—BRANDON & ROBERTSON, Brandon.	
9—BURRIDGE-COOPER CO., Winnipeg.	
10—CANADIAN FAIRBANKS CO., Winnipeg, Vancouver.	
11—CANADIAN MOLINE PLOW CO., Winnipeg.	
12—CANADIAN PORT HURON CO., Winnipeg.	
13—CANADIAN RUBBER CO., Winnipeg, Vancouver.	
14—CANADIAN STOVER CO., Brandon.	
15—CARBERRY IRON & WOOD WORKS, Carberry.	
16—CARBERRY STACKER CO., Carberry.	
17—J. I. CASE T. M. CO., Winnipeg, Regina, Calgary.	
18—CHAPIN CO., Calgary.	
19—COCKSHUTT PLOW CO., Winnipeg, Regina, Calgary, Edmonton.	
20—CRANE & ORDWAY, Winnipeg.	
21—DEERE, JOHN PLOW CO., Winnipeg, Regina, Calgary, Edmonton.	
22—DE LAVAL SEPARATOR CO., Winnipeg.	
23—DURHAM RUBBER CO., Winnipeg.	
24—EMPIRE CREAM SEPARATOR CO., Winnipeg.	
25—FROST & WOOD, Winnipeg, Regina, Calgary.	
26—GAAR, SCOTT & CO., Winnipeg, Regina, Calgary.	
27—GRAY, the WM. & SONS CARRIAGE CO., Winnipeg, Brandon.	
27½—HAMILTON PULVERIZER CO., Winnipeg	
28—HAUG BROS. & NELLERMORE, Winnipeg and Calgary.	
29—HARMER IMPLEMENT CO., Winnipeg.	
30—HART-PARR CO., Portage la Prairie.	
31—HELGESON, H. T. Winnipeg.	
32—HERO IMPLEMENT CO., Winnipeg.	
33—INTERNATIONAL HARVESTER CO., Winnipeg, Regina, Calgary, Edmonton, Saskatoon, Brandon.	
34—LOUDEN HDWE. & SPECIALTY CO., Winnipeg.	
35—MANITOBA HAYES PUMP CO. LTD. Morden.	
36—MANITOBA IRON WORKS, Winnipeg	
37—MANITOBA WINDMILL & PUMP CO., Brandon.	
38—MANSON-CAMPBELL CO., Brandon.	
39—MASSEY-HARRIS CO., Winnipeg, Regina, Calgary, Edmonton, Saskatoon.	
40—MAW, JOS. & CO. LTD., Winnipeg.	
41—MCKENZIE, A. E., Brandon.	
42—MCLAUGHLIN CARRIAGE CO., Winnipeg.	
43—MCRAE ALEX., Winnipeg.	
44—MELOTTE CREAM SEPARATOR CO., Winnipeg.	
45—NEEPAWA MFG. CO., Neepawa.	
46—NICHOLS & SHEPARD CO., Regina, Winnipeg.	
47—NORTHWEST THRESHER CO., Brandon.	
48—ONTARIO WIND ENGINE & PUMP CO., Winnipeg.	
49—PARIS PLOW CO., Winnipeg.	
50—PARLIN & ORENDORFF CANADIAN PLOW CO., Winnipeg.	
51—PARSONS-HAWKEYE MFG. CO., Winnipeg.	
52—PETRIE MFG. CO., Winnipeg.	
53—RAYMOND MFG. CO., Winnipeg.	
54—REEVES & CO., Regina.	
55—RENNIE, WM. SEED CO., Winnipeg.	
56—RIESBERRY PUMP CO., LTD., Brandon.	
57—RUMELY, M. CO., Winnipeg.	
58—SAWYER & MASSEY CO. LTD., Winnipeg.	
59—SHARPLES SEPARATOR CO., Winnipeg.	
60—STEELE-BRIGGS SEED CO., Winnipeg.	
61—STEWART & NELSON CO. LTD. Winnipeg.	
62—STEVENS, JOHN & CO., Winnipeg.	
63—SYLVESTER MFG. CO., Brandon.	
64—TUDHOPE-ANDERSON CO., Winnipeg, Regina, Calgary.	
65—VIRDEN MFG. CO., Virden.	
66—VULCAN IRON WORKS, Winnipeg.	
67—WATERLOO MFG. CO., Winnipeg, Regina.	
68—WATEROUS ENGINE WORKS, Winnipeg.	
69—WATSON, JNO. MFG. CO., Winnipeg.	
70—WHITE, GEO. & SONS, Brandon.	
71—WINNIPEG RUBBER CO., Winnipeg.	

BUGGIES AND CUTTERS.	
Armstrong Buggies and Cutters	19
Barrie Buggies and Cutters	61
Baynes Carriages	43
Brockville Buggies and Cutters	21
Dominion Carriages (Transfer Agts)	69
Gray Buggies and Cutters	27
Greer Buggies	62
Heney Buggies	11
McKie Buggies	50
McLaughlin Buggies and Cutters	42
Munro-McIntosh Buggies and Cutters	11
Reindeer Buggies	21
Tudhope Buggies and Cutters	64

CREAM SEPARATORS.	
Blue Bell	33
Champion	64
Dairy Maid	33
De Laval	22
Empire	24
Magnet	52
Massey-Harris	39
Melotte	44
National	53
Sharples	59

CULTIVATORS AND STUMP PULLERS.	
Climax Stiff Tooth Cultivator	25
Cockshutt Cultivator	19
Deere No. 2 Cultivator	21
Deering Cultivator	33
Elk (2 horse) Cultivator	21
Fleury's Cultivator	21
Frost & Wood Scuffer	25
Hilborn Stump Puller	64
K. A. (2 horse) Cultivator	21
Massey-Harris Corn Cultivator	39
McCormick Cultivator	33
Paris Scuffer	49
Sylvester Cultivator	64
Verity Cultivator	39

DISC AND DRAG HARROWS.	
Ajax Drag	21
Bissell Disc	21
Boss Drag	50-62
Canadian Moline Boss Drag	11
Canton Disc	50
Case, J. I., Disc and Drag	29
Cyclone Wheel Disc	21
Cockshutt Disc and Drag	19
Cockshutt Lever and Clip	19
Deere Disc and Drag	21
Deere King Boss Drag	21
Deere Steel Boss	21
Deering Disc Harrow	33
Defiance Jr. Disc	62
Economy Disc	11
Emerson Disc and Drag	64
Evans Disc	2
Fleury's Steel Channel Drag	21
Fleury's Clipped Drag	21
Fleury's Disc	21
Fuller & Johnson	61
Grand Detour Drag and Disc	69
Hoosier Wheel Disc	2
International Diamond and Lever	33
Massey-Harris Disc and Drag	39
McCormick Disc	11
Moline Flexible Drag and Lever	33
Paris Disc and Drag	49
Scotch Diamond Drag	25
Superior Wheel Disc	2
Universal Drag	21
Universal Tongue Trucks for Disc Harrows	21
Watson Drag	69
Wilkinson Drag and Disc	61
Windsor Disc	25

FEED AND ENSILAGE CUTTERS AND PULVERIZERS.	
Cockshutt Feed Cutter	19
Cockshutt Pulver	19
Fleury's Feed Cutter	21
Geiser Feed Cutter and Grinder	9
Massey-Harris Feed Cutter	39
Paris Feed Cutter	49
Watson's Feed Cutter	69
Watson's Root Pulver	69
Wilkinson Feed Cutter	61

FEED GRINDERS.	
Brandon	6
Challenge	6
Cyclone	9-29
Daisy	9
Diamond	64
Fleury's	21
Goold, Shapely & Muir	19
Manitoba	37
Maple Leaf	44
Ontario	48
Scientific	69
Stover Ideal	15-11
Thoms	49
Vessot	33
Victor	69
Watson's Ideal	69

GARDEN IMPLEMENTS, INCUBATORS AND POULTRY SUPPLIES.	
Chatham Incubator	38
Cyphers' Incubator	60
Fountain Air Sprayer	53
Iron Age (Garden Imp's.)	19-53 and 61
Maxwell	64
Planet Jr. Garden Tools	41-55

GASOLINE ENGINES.	
Brandon	6
Caters	7
Fairbanks	10
Fuller & Johnson	61
Gade	9
Geiser	9
Hart-Parr (Traction)	18-30
Ideal	44
International	33
International (Traction)	33
Manitoba	37
Master Workman	69
Ohio	9
Stickney	48
Stover	18-14
Sylvester	63
Waterous	68
Waterloo Boy	51

GRAIN CLEANERS, FANNING MILLS AND PICKLERS.	
Acme Pickler	6-21
Beeman Pickler	4
Chatham Fanning Mill	38
Fosston Fanning Mill	21-31
Helgeson's Smut Machine	31
Hero Fanning Mill	32
Hero Pickler	32
Jumbo Grain Cleaner	4
Superior Fanning Mill	29
Webber Grain Cleaner	11
Wonder Fanning Mill	19

HARVESTING MACHINES.	
Champion	33
Deering	33
Frost and Wood	25
Massey-Harris	39
Massey-Harris Corn Harvester	39
McCormick	33

HAY LOADERS, HAY PRESSES, HAY TOOLS MOWERS, RAKES, SWEEP RAKES, HAY STACKERS, ETC.

Bradley Hay Press	43
Buffalo Hay Press	51
Canton Hay Press	50
Champion Hay Rake	33
Champion Mower	33
Champion Side Delivery Rake	25
Dain Hay Loader and Stacker	21
Dain Hay Press	21
Dain Sweep and Hay Rake	21
Dain Side Delivery Rake	21
Deere Hay Loader	21
Deering Hay Stacker	33
Deering Sweep and Hay Rake	33
Deering Mower	33
Frost & Wood Mower	25
Frost & Wood Champion Hay Tedder	25
Frost & Wood Champion Hay Loader	25
International Hay Stacker	33
International Sweep Rake	33
International Hay Press	33
Jenkins' Sweep Rake	11
Keystone Hay Loader	33
Keystone Side Delivery Rake	33
Louden Hay Tools	34
Massey-Harris Mower	39
Massey-Harris Sweep Rake	39
Massey-Harris Hay Tedder and Loader	39
Massey-Harris Side Delivery Rake	39
McCormick Hay Stacker	33
McCormick Mower	33
McCormick Sweep and Hay Rake	33
Rock Island Hay Loader	62
Success Hay Loader	11
Tiger Steel Rake	25

HORSE POWERS AND JACKS, SAWMILLS WOOD SAWS AND TREAD POWERS.

Brandon Wood Saws	6
Caters Wood Saws and Jacks	7
Cockshutt Horse Powers	19
Enterprise Saw Mills	18
Fairbanks' Wood Saws	10
Fleury's Horse Powers and Jacks	21
Fleury's Wood Saws and Tread Powers	21
Gaar-Scott Saw Mills	21
Geiser Saw Mills and Horse Powers	9
Goold, Shapely and Muir Wood Saws	19
Horse Powers, Tread Powers, Bevel Jacks	58
International Jacks	33
Manitoba Wood Saws	37
Port Huron Saw Mills	12
Stover Horse Powers and Wood Saws	11-14
Waterous Saw Mills	68
Watson's Horse Powers, Jacks and Wood Saws	69

LAND ROLLERS AND PULVERIZERS.

Brandon Sub-Surface Packer	6
Canton Land Roller	50
Canton Packer	50
Campbell Sub-Surface Packer	50
Cockshutt Land Roller	19
Cockshutt Pulverizer	19
Wilkinson Land Roller	61
Dale Land Roller	63
Deere Land Roller	21
Fleury's Pulverizer	21
Hamilton Pulverizer	27½
Hilborn Land Roller	64
Hilborn Pulverizer	64
Kemp Pulverizer	50
Moline Paralyzer Pulverizer	11
Verity Land Roller	39
Verity Pulverizer	39
Watson's Flexible Pulverizer	69
Watson's Land Roller	69

MANURE SPREADERS.

Clover-Leaf	33
Corn King	33
Great Western	61
Kemp	50
Mandt	11
Massey-Harris	39
National	31
Success	21

PLOWS, GANGS, ETC.

Canton	50
Case, J. I.	29
Cockshutt	29
Cockshutt Engine Gang	19
Deere	21
Deere Engine Gang	21
Emerson	64
Frost & Wood	25
Geiser Engine Gang	9
Grand Detour	69
Maw-Hancock Disc	69
Moline	11
New Eclipse	61
Paris	49
Railroad Grading and Rooter Plows	58
Rock Island	60
Verity	39
Wilkinson	61

PORTABLE GRAIN ELEVATORS.

Acme	51
Carberry	15
Cyclone	21
Gopher	29
North Star	29
Taggart	9
Wizard	29

POTATO AND BEET MACHINERY.

Aspinwall Potato Planters and Sprayers	19
Aspinwall Sorters and Cutters	19
Canton Potato Diggers and Beet Tools	50
Deere Potato Diggers and Beet Tools	21
Dowden Potato Harvester	21
Egan Potato Sprayer	43
Evans Potato Planter	2
Eureka Potato Planter	21
Hallock Potato Digger	43
Hoover Potato Digger	19
Iron Age Potato Planter	61
Moline Knecker Potato Digger	11
Splitstoser Sprayer	21

RIDING ATTACHMENTS, HARROW CARTS, WHEELBARROWS AND HAND CARTS.

Cockshutt Wheelbarrow	19
Cockshutt Harrow Cart	19
Deere Harrow Cart	21
Eclipse High Harrow Cart	29
Emerson Harrow Cart	64
Fleury's Wheelbarrow	21
Fuller & Johnson Harrow Cart	61
Kramer Rotary Harrow, Man. 21, Alta. & Sask	64
Naylor Harrow Attachment	29
Paris Wheelbarrow	49
P. & O. Harrow Cart	50
P. & O. Hand Cart	50

Racine Rotary Harrow	29
Success Harrow Cart	11
Verity Wheelbarrow	39
Watson's Wheelbarrow	69
Wilkinson	61

ROAD SCRAPERS AND ROAD MACHINES.

American Scrapers	50
Cockshutt Scrapers	19
Good Roads Machinery	68
Indiana Road Machines	50-64
Russell Elevating Grader	32
Standard Reversible Grader	21
Toronto Pressed Steel Scrapers	61
Sawyer & Massey Reversible Grader	58

SEEDING MACHINES.

Cockshutt	19
Deering	33
Frost & Wood Champion	25
Hoosier	2
Imperial	50
Kentucky	2
Massey-Harris	39
McCormick	33
Monitor	11
Superior	2
Sylvester	63
Tiger	61
Van Brunt	21

THRESHING MACHINERY, SELF-FEEDERS, WIND STACKERS AND ATTACHMENTS.

Advance	1
American-Abell	1
Aultman & Taylor	33
Avery	18-28
Belle City Thresher	33
Bell, Robt.	5
Brandon Feeder	8
Brandon Cornell Engine	6
Buffalo Pitts	33
Cascaden	31
Case, J. I.	17
Dakota Weigher (ask any Thresher Co.)	21
Fosston Wind Stacker	21
Gaar-Scott	26
Geiser	9
Goodison	33-68
Hawkeye Feeder	18-51
Hartley Weigher	46-58-67
Minneapolis	1
Monarch Feeder	31
Nichols & Shepard	46
Northwest	47
Parsons' Feeder	18-51
Peoria Weigher	18-51
Perfection Weigher (ask any Thresher Co.)	A-12
Port Huron	54
Reeves	54
Rich Feeder	68
Rumely	57
Ruth Feeder	18-51
Sawyer & Massey	58
Sylvester Auto.-Thresher	63
Waterloo	67
Waterous	68
Whiteford Justice Measure	65
White, Geo. & Sons	70
Whitewings Feeder	51

THRESHERS' SUPPLIES.

Bailey Supply	3
Canadian Fairbanks	10
Crane & Ordway	20
Desmond Stephan	31
H. T. Helgeson	31
Threshers' Supplies carried in Western Canada by all the Thresher Companies.	
Madison-Kipp Lubricators	51
Manzel Oil Pumps	20
Ohio Injector Co.—Ask any Thresher Co.	
Penberthy Injectors and Brass Goods Handled by all Leading Jobbers and Thresher Companies.	
Canadian Rubber	13
Durham Rubber	23
John Stevens	62
Winnipeg Rubber	71

WAGONS AND SLEIGHS.

Adams' Wagons and Sleighs	19
Adams' Farm Trucks	19
Anderson Metal Wheel Trucks	64
Avery Wagons and Grain Tanks	28
Bain Wagons and Sleighs	39
Canton Wagons	50
Canadian Crescent Wagon	1
Chatham Wagon	33-64
Cockshutt Metal Wheel Trucks	19
Columbus Wagon	33
Davenport Wagon	21
Electric Steel Wheel Trucks	29
Fish Bros. (Racine) Wagons.	64
Genuine T. G. Mandt Wagon	11
Grand Detour.	69
Gray Light Farm Sleigh	27
Hamilton Wagon	33
Hamburg American Wagon	64-69
Havana Metal Wheel Trucks	50
Metal Wheel Trucks	21
Milbern Wagon	43
New Deal Wagons and Sleighs.	21
New Deal Farm Trucks	21
New Moline Wagon	21
Northern Chief Metal Wheel Trucks	21
Old Dominion Wagons and Sleighs	33
Petrolia Wagons and Sleighs	33
Rushford Wagon	50
Stove and Gravel Spreading Wagon	11
T. G. Mandt Sleighs.	58
Weber Wagon	33
Wilkinson Wagons and Sleighs	61
Winona Wagon	50
Woodstock Wagons and Sleighs	25

FALL WORK

Is a constant source of profit to the farmer provided the motive power behind the work is a

HART-PARR GAS TRACTOR

During the summer you have doubtless seen many new things in Gas Tractors, some of which appeared to run very smoothly and do nice work. But we doubt if you saw these same Gas Tractors go into the field and do a heavy breaking stunt day in and day out with never a stop for breakdowns or repairs. Could you but come with us we could show you scores of HART - PARR'S that have been working practically every day since last Spring,

Plowing, Seeding, Discing, Harrowing, Breaking, Road Grading, Etc.

and many of these same engines will be attached to binders and later on they will drive large separators that will do sufficient custom work to make it profitable.

That is why HART-PARR Gas Tractors are to-day known as "The" Gasoline or Kerosene Traction Engines. That is why when a farmer decides to buy a Gas Tractor HART-PARR is the first one that comes to his mind. That is why you as a buyer and user of the most durable and economical farm power on the market to-day should investigate the merits and the profit making ability of the HART-PARR.

This isn't talk, but is simply a digest of the words and thoughts of hundreds of HART-PARR owners to-day. It is nothing more than a great RESOLUTION that would be passed could all of the HART-PARR users to-day be assembled in one big CONVENTION. Ask any HART-PARR owner and we will abide by his opinions.

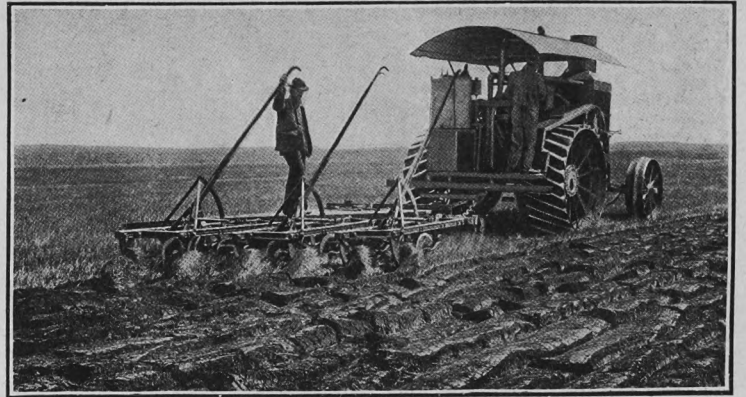
Remember HART - PARR'S are made in three sizes 30, 45 and 80 brake horse power, a range sufficient to cover any farm work.

Your name and address as a prospective user of a HART-PARR GAS TRACTOR will receive the most careful attention.

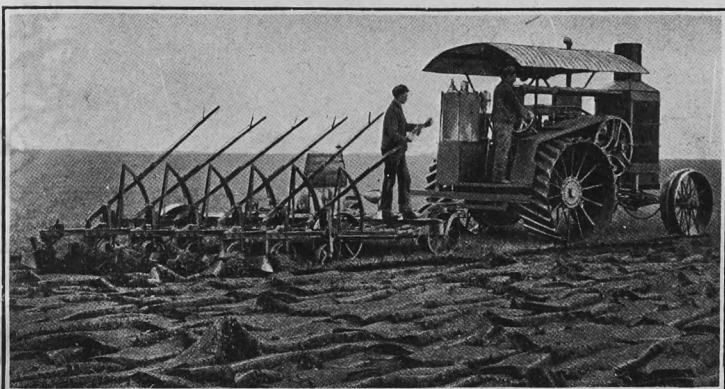
Hart - Parr Company

30 Main Street, Portage-la-Prairie, Man.

THE CHAPIN CO., CALGARY, ALTA., SALES AGENTS FOR ALBERTA.

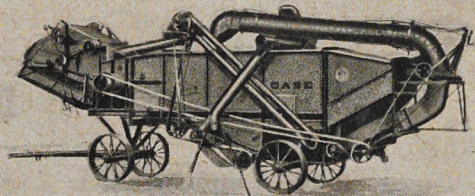
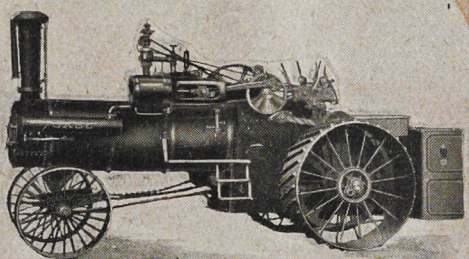


A HART-PARR PULLING A JOHN DEERE ENGINE GANG.



A HART-PARR PULLING A COCKSHUTT ENGINE GANG.

FOR THE REASON THAT CASE THRESHING
MACHINES DELIVER A FULL CROP OF
CLEAN, WHOLE GRAIN, THOSE USING
THEM ARE ASSURED OF THE HIGHEST
MARKET PRICE.



J.I. CASE
THRESHING MACHINE CO.
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